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COMPILED BY

A. E. SALISBURY, A.M.I.E.E.

MARCIA A. EDWARDS B.Sc.,

AND

PAULINE CURDS B.Sc.

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MOLLESCA

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9. MOLLUSCA

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CONTENTS

I. TITLES	4
II. SUBJECT INDEX	60
General	60
Structure	63
Physiology	66
Development	70
Ecology	72
Zoogeography	79
Distribution	81
Land and Fossil	81
Marine	89
Geological	91
III. SYSTEMATIC INDEX	96
Monoplacophora	96
Amphineura	97
Gastropoda... ..	97
Prosobranchiata	97
Opisthobranchiata	113
Nudibranchiata	115
Pulmonata	117
Scaphopoda	128
Pelecypoda	128
Cephalopoda	146
Incertae Sedis	158

I.—TITLES

The year of publication of a title is omitted from the reference where it is the same as the volume year of the 'Record' namely 1961.

Opinion 587. *Casertanum* Poli, 1791, as published in the binomen *Cardium casertanum* added to the Official List of Specific Names (Pelecypoda). Bull. zool. Nom. 18 : 103.

Opinion 593. *Westenoceras* Foerste, 1924 (Cephalopoda): emended under the Plenary Powers to *Westenoceras*. Bull. zool. Nom. 18 : 121-122.

Opinion 595. Interpretation of the nominal species *Unio phillipsii* Williamson, 1836 (Pelecypoda). Bull. zool. Nom. 18 : 125-126.

Opinion 613. *Hippurites* Lamarck, 1801 (Pelecypoda); conservation under the Plenary Powers. Bull. zool. Nom. 18 : 355-356.

Anon. (1). *Clementia solida* Dall 1902. Veliger 4 : 51 [Note].

Anon. (2). Accident mortel par venin de Cone. J. Conchyliol. 101 : 109.

Anon. (3). *Conus vitulinus* from Hawaii and the Philippines. Hawaiian Shell News 10 1 : 6, fig.

Anon. (4). *Murex elongata* found alive on Oahu. Hawaiian Shell News 10 1 : 4.

Anon. (5). *Cypraea tigris*, 'Bulla' stage. Hawaiian Shell News 10 1 : 3, 5, fig.

Anon. (6). *Cassis cornuta* (helmet shell) egg cluster. Hawaiian Shell News 10 1 : 1, photo.

Anon. (7). *Cypraea roselii* Cotton, 1948. Hawaiian Shell News 10 2 : 7, 3 text-figs.

Anon. (8). Golden Cowry corner [List of a few owners of *Cypraea aurantia*]. Hawaiian Shell News 10 2 : 7.

Anon. (9). Ralph Arnold (1875-1961). Veliger 4 : 51 [Note].

Anon. (10). Resolutions of the interdepartmental conference on the development of the unified stratigraphic schemes in the Urals. (Minist. geol. okhrany neдр SSSR.) Akad. Nauk SSSR Moskva : 1-52. [In Russian.]

Anon. (11). The Nelsons of Rutgers. Estuar. Bull. Univ. Delaware 5 1 1960 : 12-15, portrait.

Anon. (12). The importance of fossil shells. Hawaiian Shell News 9 3 : 2-3.

Anon. (13). Details of death from Cone sting [*Conus geographus*]. Hawaiian Shell News 9 3 : 3.

Anon. (14). *Conus eugrammatus* in Hawaii. Hawaiian Shell News 9 4 : 3, 8.

Anon. (15). *Conus pennaceus* and a bit of history. Hawaiian Shell News 9 4 : 4.

Anon. (16). Another freak *Conus pulicarius*. Hawaiian Shell News 9 5 : 1, 8, photo.

Anon. (17). A report on preliminary studies on the venom in the so-called poison cones. Hawaiian Shell News 9 6 : 4.

Anon. (18). Black coral tree and swimmer [note on *Pteria lancia*]. Hawaiian Shell News 9 7 : 1, 3.

Anon. (19). [Three malformed specimens of *Conus*]. Hawaiian Shell News 9 7 : 3, 3 photos.

Anon. (20). Dr. Jeanne S. Schwengel dies. Hawaiian Shell News 9 7 : 6.

Anon. (21). *Conus profundus* Kuroda 1956. Hawaiian Shell News 9 8 : 2, 7, fig.

Anon. (22). Seychelles Islands Cones. Hawaiian Shell News 9 8 : 5.

Anon. (23). *Conus terebra* from Davao Gulf P.I. Hawaiian Shell News 9 8 : 5, fig.

Anon. (24). Black coral—a tomb for *Cypraea* and as sculpture material. Hawaiian Shell News 9 9 : 1, 4, 5, 8, 3 figs.

Anon. (25). Summary of present knowledge on cone egg-laying habits. Hawaiian Shell News 9 10 : 2, 4.

Anon. (26). A "freak" *Conus marmoreus*—bandanus. Hawaiian Shell News 9 10 : 5, photo.

Anon. (27). Report on the egg-laying habits of the genus *Conus* in the Indian Ocean. Hawaiian Shell News 9 11 : 2, 6.

Anon. (28). Eniwetok Cone list and some comparisons. Hawaiian Shell News 9 11 : 7.

Anon. (29). Hawaiian *Mitra incompta* formerly *Mitra tessellata*. Hawaiian Shell News 9 12 : 3, fig.

Anon. (30). Maxwell Smith dies. Hawaiian Shell News 9 12 : 8.

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II—SUBJECT INDEX

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GENERAL LITERATURE

Monographs.—Freshwater Mollusca of Mozambique, Azevedo, Medeiros, Faro et al.; South Australian Pelecypoda, Cotton, B. C. (2); Monographic revision of *Burtoa* from Africa, Crowley & Pain (2); African land snails of the genus *Limicolariopsis*, Crowley & Pain (3); Supplement to J. C. Bequaert's "Monograph of the Strophocheilidae, a Neotropical Family of Terrestrial Mollusks," Crowley & Pain (4); A monographic study of the Opisthobranchia of California: figs., Marcus, E. (1); Oyster farming, Medcof, J. C.; Review of the functional morphology of *Kellia suborbicularis*, *Montacuta ferruginosa* and *M. substriata*, Oldfield, E.; Panamic-Pacific Pelecypoda, Olsson, A. A.; Monograph of the "pearl oysters" of the genus *Pinctada* Röding, Ranson, G.; The Unionidae of Fishery Bay, South Bass Island, Lake Erie, Stansbery, D. H.; Shell life on the seashore, Street, P.

General Works and Treatises.—Palaeontological investigations in Azerbaidjan in the last 40 years, Alizade & Khalilov; Selected works of N. I. Andrusov, Andrusov, N. I. (1); Summary of new molluscs previously described from the Jurassic and Triassic of Spain (with full references), Bataller, J. R. (2); Shell collecting and collectors, rare and interesting shells, Cameron, R.; South Australian Pelecypoda, Cotton, B. C. (2); Systematic atlas of Cretaceous Mollusca from the Caucasus and Crimea, Drushchitz & Kudryavtsev; Littoral fauna of the British Isles, Eales, N. B.; Review and detailed study of Mesozoic ammonite papers, Haas, O. (2); Classification, key and checklist of marine animals, Luther & Fiedler; Panamic-Pacific Pelecypoda, Olsson, A. A.; Shells of New Zealand, Powell, A. W. B.; International Code of Zoological Nomenclature, Stoll, Dollfus, Forest et al.; Proposal to rule that the pamphlet "Mémoire sur un nouveau genre de coquille bivalve-équivalve, de la famille des Solénoides intermédiaire aux Solens et aux Myas (etc.)" issued by Ménard de la Groye and dated Jan. 1807, is to be regarded as not published until after April 1807, Vokes & Cox; Atlas of typical fauna-complexes of the Tertiary deposits of the central Pre-Caucasus, Volkova, N. S.

History.—The last 40 years of palaeontology in Azerbaidjan, Alizade & Khalilov; Of the Devonian inhabitants of the Kuznetz basin, Siberia, Belskaya, T. N.; Contributions to the history of the freshwater fauna in Eurasia, Bogachev, V. V. (2); Shells and early shell collectors, Cameron, R.; Turks and Caicos Islands and Ragged Islands, Clench, W. J. (2); *Charonia lampas* thought to belong to the Lukis Collection, found in Guernsey, Crowley, T. E. (2); Of molluscan development in the Black Sea basin, Davitashvili, L. S.; *Papuna*

ferussaci identification of the species and historical notes, Henard, J. B.; Historical review of Panamic-Pacific Pelecypoda, Olsson, A. A.; History of oyster farming in Canada, Medcof, J. C.

Biography.—Ralph Arnold 1875-1961, Anon. (9); Thurlow Christian Nelson 1890-1960 portrait, with notes on his father Julius Nelson, Anon. (11); Dr. Jeanne S. Schwengel died Feb. 17th 1961, Anon. (20); Maxwell Smith [notice of death], Anon. (30); N. I. Andrusov (calligraphy and portrait), Andrusov, N. I. (1); Maxwell Smith died Sept. 12 1961, [Baker], H. B. (7); Jeanne Sanderson Schwengel notice of death, [Baker, Wurtz & Abbott] Editors 'Nautilus' (1); Jeanne Sanderson Schwengel 1889-1961, [Baker, Wurtz & Abbott] Editors 'Nautilus' (2); Dr. Antonio Formica Corsi, Barattini, L. P.; Lucas Mallada 1841-1921 photo., Bataller, J. R. (1); Early shell collectors; William Dampier; Elias Ashmole (1617-92); John Tradescant; Sir Hans Sloane; George E. Rumphius; Linnaeus; portraits, Cameron, R.; Francis Noyes Balch 1874-1960, Champion, M. E.; George J. Streator, Dexter, R. W. (7); Hubert G. Schenck [1897-1960], Fischer, P. H. (1); P. P. Carpenter, Galbraith & Dance; Additional data relative to W. H. Pease, Greene, K. W.; Carlo Alzona 1881-1961, Guiglia, D.; Conchological friends and acquaintances, Hill, H. R.; P. P. Carpenter, Kellogg & Rehder; The Kiev period (1856-1863) in the life of Constantin Jelski 1837-1896, Kozuchowski, J.; Dr. Iwao Taki, celebration of his 61st birthday, portrait, [Kuroda, T. [Editor]] (4); Charles Francis Laserson 1887-1959, McMichael & Whitley; Ferdinand Roemer (1818-1891) calligraphy; and Friedrich Rolle (1827-1887), Martin, G. P. R.; Aemilian Edlaue 1882-1960 (portrait and calligraphy), Paget, O. E.; Paul Bartsch 1871-1960, Rehder, H. A. (3); Ewald Fromming 1899-1960, Reichmuth, W.; Hubert G. Schenck 1897-1960, Robertson, R. (1); Peter Olaus Okkelberg died Sept. 13th 1960, Schalie, H. v. d. (1); Peter Olaus Okkelberg 1880-1960, Schalie, H. v. d. (2); P. J. Yates notice of death 7.8.1960, [Editor] in Yates, P. J.

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Taxonomy.—Systematic review of Mozambique molluscs and general considerations about the classification of the bilharziasis vector molluscs, Azevedo, Medeiros, Faro et al.; *Tamanovalea limax* affinities, Baba, K. (1); Selection of type of *Succinea campestris vagans* Pilsbry 1901, Baker, H. B. (1); Systematics of Endoceratoides, Balashov, Z. G. (1); Systematics of the genus *Pisidium*, Boettger, C. R.; Problems of agoniatic classification, Bogoslovsky, B. I.; Use of glochidia in *Diplodon* systematics, Bonetto, A. A. (1); Review of the taxonomic literature on Australian Lymnaeidae, new synonymies given, Boray & McMichael; Of three species of *Cochlicella*, Boulange, J.; Systematic account of economically important snails and slugs, Burch, J. B. (3); On the value of chromosome numbers in snail systematics, Burch, J. B. (4); On bivalve gastropods, Clench, W. J. (1); Of Desmoceratidae, Collignon, M. (3); Classification and revision of Achatinellidae and Tornatellidae, Cooke & Kondo; Taxonomic history of *Cardinia* and the Cardinidae, Cox, L. R. (3); Description and figures of the hitherto unfigured *Strophocheilus* (*Megalobulimus*) *capillaceus* (Pfeiffer) and *S. indigenus* Fulton, Crowley & Pain (4); Of *Polycera elegans* Bergh 1894, Edmunds, M.; Major divisions of the Cephalopoda, Flower, R. H. (2); Number of ovipositions and nature of egg capsules as species specific characters of *Neptunea*, Golikov, A. N.; Recent literature on Mesozoic ammonites and details on taxonomic revisions included in them, Haas, O. (2); Barrande's Lower Palaeozoic species of "Mytilus" shown to be taxonomically undefinable, Hajek, Růžicka & Prantl; *Terebra* Bruquière 1789, synonymy and key to species, Hanna & Hertlein; Classification of groups of *Papuina*, Henard, J. B.; Key to British species of *Venerupis*, Holme, N. A. (3); Venezuelan Planorbidae, Hubendick, E.; Quaternary Pyramidellidae, Ilyina, L. B. (1); Cytotaxonomy of Euthyneuran gastropods, Inaba, A.; Behaviour studies as an aid to taxonomy, Karlin, E. J. (2); A proposed reclassification of the Vermetidae, Keen, A. M. (4); Classification of *Berthelinia*, Keen & Smith; Taxonomic revision of *Platylenticeras* Hyatt 1900 (= *Garnieria* Sayn 1901), Kemper, E.; On the genera *Byssanodonta* and *Eupera*: figs., Klappenbach, M. A. (3); Amphidromus systematic affinities, Laidlaw & Solem; Taxonomic status of the unguulate forms of *Mytilus* found in the British Isles, Lewis & Powell; On the bivalved opisthobranch problem, Milburn, P.; On the family Rissoiidae, Militante, P. J.; Taxonomic position of "Unio" *valdensis* Mantell in Margaritiferidae and not in Unionidae, Mongin, D. (4); On Juliidae, Morrison, J. P. E. (1); Classification and phyletic relationships of the Trigoninae, Nakano, M. (1); Synonymies given for West African intermediate hosts of bilharziasis, Odei, M. A. (1); Notes on the classification of Gastropoda, Odhner, N. H.; Specific inter-relationships of *Carinaria*, Okutani, T. (2); Taxonomy of Japanese Terebridae, Oyama, K. (1); Of Japanese Cenozoic Mollusca revised, Oyama, K. (5); Revision of the species and subspecies of African *Pila*, complete synonymy and distribution of the

species, Pain, T.; Revision of Etheriidae, Pain & Woodward; Shell versus anatomy in planorbis systematics, Paraense, W. L. (1); Aids to classification, gills and hinge teeth of bivalves, protoconch and radula of univalves, Powell, A. W. B.; *Hyalina* (*Retinella*) *oscar* Kimakowicz 1883, Riedel, A.; Terebrinidae from the S.W. Pacific, Roch, G. F.; Of the dibranchiata Cephalopoda, Sacarrão, G. F.; Systematic position of *Nematocella bavarica*, Schlickum, W. R. (1); A review of the genus *Horatia* and description of a new species and subgenus, text-fig., Schütt, H. (1); Ammonite classification based on ontogeny, Shevryev, A. A. (1); Nautiloid systematics and group relationships, Shimansky & Zhuravleva; On *Vasum* of the Caribbean, Shuster & Bods; Classification of the New Caledonian Endodontidae showing probable relationships within basic sculptural types (text-fig. 10), Solem, A. (1); Molluscan classification and common names of sea shore species, Street, P.; Systematic position of *Hyalithes* Sysoev, V. A. (1); *Arthropodium* Beyrich (1850) and *Limacothorax* Termier and Termier (1950), Teichert, C. (2); Importance of larval shell in Sacoglossa and Acoela classification, Thompson, T. E. (3); Revised classification of the endoparasitic gastropods, Tikasingh & Pratt; Atlantidae opercula as taxonomic criteria, Tokioka, T.; Classification of Typhinae primarily based on varix types, Vella, P. (1); New *Gonaxis* from the Usambara Mts., with notes on classification of the genus, Verdcourt, B. (2); Key to Eastern African *Ptychotrema*, Verdcourt, B. (7); East African slugs of the Urocyclidae, Verdcourt & Polhill; Of *Limax* (*Lehmannia*) *valentianus*, Walden, H. W.; Problems in the taxonomy of *Bulinus*, Wright, C. A.; Parallel evolution and its systematic significance, Yakovlev, N. N.; The class Coniconchia and the phylum Mollusca, Yochelson, E. L. (2); Types of Mollusca in the Senckenberg Museum, Zilch, A.

Nomenclature.—Validation of *casertanum* Poli 1791 as published in the binomen *Cardium casertanum*, Opinion 587; *Westenoceras* Foerste 1924 emended under the Plenary Powers to *Westonoceras*, Opinion 593; The nominal species *Unio philippinensis* Williamson 1836 is to be interpreted by reference to specimen No. L10106 in the Geol. Dept. Manchester Museum, Opinion 595; Conservation of *Hippurites* Lamarck 1801, Opinion 613; Comments on the proposal to place the generic name *Gari* Schumacher 1817 on the Official List unemended, [various authors pp. 297-303 Bull. Zool. Nom. 18]; *Clathurella* Carpenter 1857 proposed designation of a type-species, Baily, J. L. (2); On the status of *Beckianum*, Baker, H. B. (6); *Lustrica* (*Paludina*) Say 1821 proposed suppression, Baker, H. B. (8); *Neosibia* Ancey 1887 nomenclature note, Baker, H. B. (9); *Australorbis*, *Biomphalaria*, *Platylaphius*, *Taphius* and *Tropicorbis*, anatomically congeneric; nomenclatorial history analysed, Barbosa, Hubendick, Malek & Wright; Lower Greensand palaeontological corrections in gastropod nomenclature, Casey, R. (5); Ammonite genus *Platikenemicer* Bataller 1954, Casey, R. (6); Correct use of *Mitra incompta* Humphrey 1786, Cate, J. M. (3); Of *Hydrobia ulvae* and *H. ventrosa* and *Potamopyrgus jenkinsi*, [Clay, E.] (1); Synonymy of *Littorina littorea*, *L. littoralis*, *L. saxatilis* and *L. neritoides*, [Clay, E.] (2); Of *Macoma balthica* and *Tellina tenuis*, [Clay, E.] (3); Reply to comments on proposals relating to *Gari* Schumacher, Cox, L. R. (2); Revision of the New Zealand genus *Phenacohelix* Suter 1892, Cumber, R. A.; *Lepton subtrigonum* Jeffreys nomen nudum 1873, Deroux, G.; Study of *Gryphaea pitcheri* and *G. navia*, Dmitriev, A. V. (2); Nomenclatorial review of *Macrodont*, *Grammatodon*, *Parallelodon* and *Beushausenia*, Driscoll, E. G.; Designation of type of *Phyllidia bataviae* Pruvot-Fol, Eeken, C. J. v.; *Permophorus* Chavan 1954 nom.

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Economics.—Molluscan cultivation, Andreu [Morera], B. (1); Mussel cultivation in Galicia, Andreu [Morera], B. (2); Culture of oysters in the Rio de Vigo, Spain, Andreu [Morera], B. (3); Changes in ATP, ADP and AMP in muscles of some seashells during various conditions of storage, Aral, K.; Use of molluscicides in Egypt, Ayad, N.; Oysters, mussels and cockles, Baird, T. T.; Results of the 1955 to 1959 Pismo clam censuses, Baxter, J. L.; Dangers in using NaPCP as a molluscicide, Blair, D. M.; Use of Mollusca by primitive peoples of Uruguay, Bonino de Langruth, V.; Ecology and biology of *Brachydonax minimus*, Bouchet, J. M.; Freshwater snails as food of fish and the effect of their numbers on fish populations, Brown, M. E.; Snails and slugs of quarantine significance to the United States, Burch, J. B. (3); Importance of *Mytilus platensis*, Castellanos, Z. J. A. de (3); Scallop fisheries of Tasman Bay, 1959-60, Choat, J. H.; The "winkle industry" and effects of pollution, [Olav, E.] (2); Bacterial flora of *Crassostrea gigas* and its relation to post-mortem spoilage, Colwell & Liston; Molluscicidal control of bilharzia, Deschiens, Le Corroller, Pastac, I. & S.; Quality of oysters and ecological conditions in the Oosterschelde, Drinkwaard, A. C.; Radioactive tracer study of a new molluscicide, Bayluscid,

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Ethnology.—*Mitra* sp. from a Dolmen, used as a ring, Astré, G. (1); Mollusca used as food found in Gallo-Roman sites, Astré, G. (2); Role of freshwater molluscs of Mozambique in medicine, Azevedo, Medeiros, Faro et al.; Use of molluscs for decoration and in rituals by primitive peoples in Uruguay, Bonino de Languth, V.; Radiocarbon dating of oyster shell heaps in the Damascottia River, Maine, Bradley, W. H.; Menus for Calamari, Brode & Pappin; Use of shells in art and as adornment, Cameron, R.; *Littorina littorea* found in Micmac Indian camp sites in Nova Scotia, Clarke, Jr. & Erskine; Mollusca collected from the amphitheatres of Minihagal Kanda, Ceylon, Deraniyagala, P. E. P.; Notes on discarded shells of food Mollusca, Dexter, R. W. (1); Non marine molluscs from La Playa site, Sonora, Mexico, Drake, B. J. (2); Oyster shell pieces used as blade tools in the Palaeolithic of the Niah Cave, Borneo, Harrison, T.; Chank used mainly for bangles and rings, Jonklaas, E.; Use of Mollusca in delimiting culture periods and establishing evidence of culture contact, Lambert, Jr., R. J.; Analysis of molluscan collections from shell middens of former Indian habitations, Matteson, M. R. (1); Mollusca shells from the excavations at Niah, Borneo, Lord Medway; Statuettes made from mollusc shells, figs., Parenzan, P. (2); *Pterocera lambis* shells used for vases and lamps, Rao, K. V.; *Olivella* necklaces in burials and molluscs in ancient middens at San Diego, California, Shumway, Hubbs & Moriarty; Molluscs from shell pits, storage of oysters by Indians in Delaware, Shuster, Jr., C. N.; Pearls and the history of pearls, Tsujii, T.

Expeditions, Museums and Collections.—Cephalopoda collected by the "Calypso" in the Gulf of Guinea in 1956, Adam, W.; Methods of collecting Mollusca, Agócsy, P.; Collecting in Okinawa, Clover, P. W. (2); In Netherlands Antilles, Coomans, H. E. (1); Commonwealth Palaeontological Collection, Canberra, Crespin, L.; Collecting in Haiti, Eyerdam, W. J. (1); Mollusca collected by the "Biological expedition of the University of Florence to Somalia," Forcart, L. (2); Ammonite with 'feather structure' from the Hofstra College fossil collection, Haas, O. (1); Sphaeriidae collecting, Herrington, H. B. (1); British Museum examples of *Conus gloria maria*, Kay, A. (2); On the W. H. Pease collection in the British Museum, Kay, A. (3); Observations made on *Conus* spawning and development during the Yale Seychelles expedition, Kohn, A. J. (2); Gastropoda collected by J. L. Gressitt, Kondo, Y.; Constantin Jelaki's molluscan collection in the Zoological Institute of the Polish Academy of Sciences, Kotschowski, J.; Subfossil terrestrial molluscs collected by M. P. Rognon near Hoggar, Algeria, Liabador, F. (2); Revision of the Tate types of Nuculidae and Nuculanidae, figs., Ludbrook,

N. H. (2); Collecting in the Los Angeles Bay area, McLean, J. H. (2); Edible mollusca shells collected from the excavation at Niah, Borneo, Lord Medway; Collecting on navigation buoys, Merrill, A. S. (1); Method of collecting limpets, slippershells and the like, Shasky, D. R. (2); Rare shells dredged on the "Ariel" expedition, Shasky, D. R. (5); Collecting *Halotis* in California—legal regulations, Smith, A. G. (3); Ophiobranchia collected by the 1959 Netherlands Biological Expedition to Turkey, Swennen, C.; Natural History Museums of Europe, Turner, R. D. (3); Hawaiian scientific expedition to West Australia, Weaver, C. S. (1); Fossil invertebrates collected from the Monahans Dunes and Lubbock Lake Site, Wendorf, F.; Types in the Senckenberg Museum, Zilch, A.

STRUCTURE

including HISTOLOGY

General Anatomy.—Morphology of the mantle cavity organs of Veneracea, Ansell, A. D. (2); Discovery of different organisations of body-plan, Az, P.; *Tamanovalva limax* comparative anatomy, Babs, K. (1); *Bankia* (*Bankiella*) *minima*, Bade, Masurekar & Bal; Reversal of asymmetry in a bivalve, Bailly, J. L. (3); *Corbicula limosa*, Barabiar, B. C.; *Planorbium metidjensis*, Barbosa, Carneiro & Barbosa (1); *Rumina decollata*, Batts, J. H.; *Scaphitella dageti* n. gen., n.sp., figs., Binder, E.; Cephalopod "white bodies," Bolognari, A. (1); General introduction to the anatomy of the classes of Mollusca, Burch, J. B. (3); Function of the epipodium in trochids, Burdon-Jones & Desai; Molluscan form and function, Cameron, R.; Functional significance of ammonite septa, Chernov, A. A.; *Potamopyrgus jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); *Littorina* spp., [Clay, E.] (2); *Tellina tenuis* and *Macoma balthica*, [Clay, E.] (3); Achatinellidae and Tornatellidae, Cooke & Kondo; South Australian pelecypods figs., Cotton, B. C. (2); "Lepton subtrigonum" = *Potidoma* gen. nov. subtrigonum, Deroux, G.; *Pseudocermis setensis* n.sp., Fize, A.; Anatomy and organogenesis of *Mutela bourguignati*, Fryer, G.; Morphology of the gills, details of cilia and direction of beat; an electron microscope study on *Anodonta*, Gibbons, I. R. (2); General internal anatomy of *Hermacina smithi*, Gonor, J. J.; Anatomy of the Helicariionidae of Japan, Habe, T. (4); *Hervia costai* described and fig'd., Haefelfinger, H. R. (1); Venezuelan Planorbidae, Hubendick, B.; Structure and habits of growth in the Vermetidae, Keen, A. M. (4); *Amphidromus* soft parts, Laidlaw & Solem; *Liophora* Pilsbry 1893, Leloup, E. (2); Head, foot and pallio-pericardial complex of *Hastula cinerea*, Marcus, Ev. & Er. (1); Colour, head, epipodium and foot of *Tricolia affinis cruenta*, Marcus, Ev. & Er. (3); Diagnostic characteristics of the major genera of the Filidae, Michelson, E. H. (1); Detailed anatomy of *Watsonia* compared with other members of the Ancyliidae, Miroli, M.; Functional anatomy of *Kellia* and *Montacuta*, Oldfield, E.; Value of anatomical methods for identification of species, Paraense, W. L. (1); Bibliographic references concerning *Mya arenaria* anatomy, Pflüsenmeyer & Shuster; Jurassic belemnites, Schwesiger, E.; General anatomy of gastropods from Dar es Salaam, Spry, J. F.; *Anadara trapezia* morphology and histology, Sullivan, G. E.; *Arthropodium* and *Lamellorhynchus*, Teichert, C. (2); External morphology of *Trichotoxon thikensis* figs., Urban, S.; Comparative anatomical study of *Aplysilla virescens* and *A. webbi* from the Mediterranean, Vicente, L.; *Helix aspersa* epiphragm formation, Walrecht, J. J. R. (2); *Boettgerilla compressa*, *B. pallens* and *B. vermiformis* text-figs. 1-5, Wiktor, A.

External Anatomy.—Colour in certain *Cypraea* from New Caledonia and French Polynesia, Bouge, L. J.; Dorsal appendages of *Trinchesia coerula*, Bürgin-Wyss, U.; *Potamopyrgus jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); *Littorina littorea*, *L. littoralis*, *L. saxatilis* and *L. neritoides*, [Clay, E.] (2); *Tellina tenuis* and *Macoma balthica*, [Clay, E.] (3); Biological significance of the aboral structure of ammonites, Davitashvili & Khimshiashvili; *Hermacina smithi*, Gonor, J. J.; Skin structure, development of pattern and problem of spicules of *Peliodoris*, Haefelfinger, H. R. (2); *Ischnochiton* species, valves, and external structure, Leloup, E. (1); Aesthetes and plates of *Liolophura*, Leloup, E. (2); External characters and pallial organs of *Siphonaria hispida*, Marcus, Ev. & Er. (2); External anatomy, shell, gills and mantle of *Kellia* and *Montacuta*, figs., Oldfield, E.; Body colour and pigmentation studies on *Gastropoda*, Reichmuth & Frömming; Aplacophoran from the eastern Pacific, Schwabl, M. (2).

Nacreous Growths.—Pearl formation in molluscs, McMichael, D. F. (3); Pearl formation and pearl sac morphology, Trujillo, T.; Crystal arrangement of nacre in Pelecypoda relative to shell growth, Wada, K.

Radula.—Radulae of 32 species of Naticidae, fig'd., Azuma, M. (2); *Berthelinia* radulae and shells, Baba, K. (3); *Planorbis metidjensis* figs., Barbosa, Carneiro & Barbosa (1); *Biomphalaria pfeifferi* fig. 6, Barbosa, Carneiro & Barbosa (2); *Lymnaea peregra* variations and figs., Berrie, A. D.; *Soapitia dageti* n. gen. n.sp., Binder, E.; *Pseudovermis* sp. from Anglesey, Roeden, P. J. S.; *Burnupia* cf. *caffra*, figs., Brown, D. S.; *Glossodorina arbuta* sp. nov. pl. 15 figs. 1, 2; *G. victorica* pl. 15 fig. 3; *G. tasmanensis* pl. 15 fig. 4; *G. haliclona* pl. 15 fig. 5, Burn, R. (5); *Tromina bella abyssicola* n.sp. *Brookula* (*Benthobrookula*) *powellii* n.sp., figs., Clarke, Jr., A. H. (2); *Phenacohelix ponsomyi*, *P. pilula*, *P. (Neo-phenacohelix) giveni*, *P. (N.) perplexa*, *P. (N.) stokesi* and *P. (N.) tholoides*, figs., Cumber, R. A.; Use of radula in hatching of *Amnicola limosa*, Davis, C. C.; *Polycera elegans*, figs., Edmunds, M.; *Pseudovermis setensis* n.sp., Fise, A.; *Limax tenellus* variation of radula, figs., Flasar, I. (2); *Hermacina smithi* fig. 8, Gonor, J. J.; General note on radulae formulae, [Griffiths, R. J.] (6); *Velutina* (*Limneria*) *conica*, *V. (Velutella) cryptospira*, *Crepidula grandis*, *Tectonatica hirasei*, *T. janthostoma*, *T. severa*, *Falsiclingula kurilensis*, *Buccinum undulatum midden-dorffii*, *B. ochotense*, *B. chishimanum*, *Neptunea* (*Barbitonia*) *arthritis*, *Plicifusus* (*Retifusus*) *plicatus*, *Velutina* (*Limneria*) *bulia*, *Ezolitirina squalida*, *Lirularia iridescens*, *Trichotropis bicarinatus*, *Volutharpa ampullacea*, *Ocenebra adunca*, *Mitrella bella*, *Collisella pelta*, *Stenotis uchidai*, *Polytropia lamellosa*, *Ephera decorata*, *Acmaea* (*Niveolectura*) *pallida*, *Rhodopetoma erosa*, *Suavodrillicia declivis*, and *Cryptobranchia lima*, Habe, T. (1); *Otiosiopsis kavaguchii* sp. nov., radula fig'd., Habe, T. (4); *Hervia costai*, radula, fig'd., Haefelfinger, H. R. (1); *Taphius*, *Helisoma* and *Drepanotrema*, Hubendick, B.; *Vitri-nizonites widermisi* and *V. latissimus*, Hubricht, L. (3); *Oxychilus* (*Riedelii*) *inopinatus*, Hudec, V. (4); *Cypraea leviathan* and *C. carneola*, figs., Kay, A. (8); *Buccinanops duartei* nov. sp. figs., Klappenbach, M. A. (2); *Chromodoris aila*, *Polycera hummi*, *P. chilluna*, *Ancula evelinae* and *Tritonia* (*Tritonidoxa*) *wellsii*, figs., Marcus, Ev. & Er. (2); *Haslula cinerea* pl. 3, figs. 14, 15, Marcus, Ev. & Er. (2); *Siphonaria hispida* pl. 3, figs. 14, 15, Marcus, Ev. & Er. (2); Radula and jaws, pl. 2 figs. 6, 7, 8; of *Tricolia affinis cruenta*, Marcus, Ev. & Er. (3); *Coryphellina rubrolineata* figs., Marcus, Ev. & Er. (4); *Watsonula wautieri* n. gen., n. sp., figs., Miroli, M.; *Theodoxus fluviatilis*, figs., Neumann, D.; *Carinaria cristata*, figs.,

Okutani, T. (2); Quantitative variation observed in the radulae of *Australorbis glabratus* specimens, Paraense, W. L. (1); *Chiton* sp. staining technique to show the radula in a preparation, Peters, W.; *Octopus bimaculatus*, *O. bimaculoides* and *O. vulgaris*, Pilson & Taylor; *Saptadanta nasika*, Rao, K. V.; *Atlanta* spp., *Protatlanta souleyeti* f. 26, *Oxygyrus keraudreni* f. 27. Structure and use in classification, Richter, G. (1); *Crepidula fornicata*, photos., Richter, G. (2); *Oxychilus* (*Schiostrophallus*) *oscari* fig., Riedel, A.; *Rissoella galba* Robertson, Robertson, R. (2); *Patella vulgata*, histochemical study of the radula, Runham, N. W.; *Monetaria annulus*, *M. moneta* and *Erosaria helvola*, Schilder, F. A. (1); Conchometry and radulae of Cypraeidae—tables, Schilder, F. A. & M. (1); Sexual differences in Cypraeidae, Schilder, F. A. & M. (2); *Crystallaphrisson hartmani* nov. sp., figs. 5, 6, 7, 8, Schwabl, M. (2); *Pseudamnicola reatina* n. sp. figs., Stella, E.; *Opiostobranchia* from Turkey, Swennen, C.; *Trichotoxon thikensis* pl. 9 fig. 27; pl. 10 fig. 28, Urban, S.; *Aplysiella virescens*, *A. webbi*, figs., Vicente, L.; Of *Limax valentinus* and *L. tenellus*, figs., Walden, H. W.; *Gundlachia*, *Acroloxus* and *Ancylus* spp., figs., Hautier & Odièvre; *Boettgerilla compressa* pl. III, figs. 12-14; *B. pallens* pl. III figs. 15-18; *B. vermiformis* pl. IV figs. 19-24, Wiktor, A.

Shell.—Production and regeneration of the shell of *Helix pomatia*, Abolins-Krogis, A.; *Gibbula sylvoae* changes in shell structure with age, Amitrov, O. V.; Veneracea of the British Isles, Ansell, A. D. (2); Shell variation in *Vertigo heldi* Clessin, figs., Ant, H.; Anatomy of *Scintilla* and differences of the shells of *S. violascens* and *S. vitrea*, Arakawa, K. Y.; *Berthelinia* spp. characteristics, Baba, K. (3); *Banksia* (*Bankiella*) *minima*, Bade, Masarekar & Bal; *Corbicula limosa*, Barabbar, B. C.; *Biomphalaria pfeifferi*, Barbosa, Carneiro & Barbosa (2); *Rumina decollata*, Batts, J. H.; Variations in shell of *Soapitia* gen. nov., Binder, E.; *Burnupia* cf. *caffra*, Brown, D. S.; Shell terminology, Burch, J. B. (3); Shell shape and colour, Cameron, R.; Pelecypoda of South Australia, figs., Cotton, B. C. (2); Hinge teeth of *Cardinia* and *Unio*, figs., Cox, L. R. (3); *Sepia* cuttlebone chambers, proportions of gas, liquid and solid, Denton & Gilpin-Brown (1); Distribution of gas and liquid in cuttlebone, Denton & Gilpin-Brown (3); Hinge line of the Leptonacea, Deroux, G.; Shell deposits of *Crassostrea gyphoides* from India, Durve & Bal (2); Hinge tooth reversal in Sphaeriidae, Eggleston & Davis; Variations of *Littorina saxatilis* from the French coasts and Iberian peninsula, Fischer-Piette & Gaillard; Nitrogen content and shell texture in *Euparypha pisana*, Gaudiosi & Sacchi; Jurassic German Perisphinctidae, Geyer, O. F. (1); Shell construction in *Rissoa parva*, Gostan, G.; Conchioline associations in molluscan shells—microscopic study, Grégoire, C.; *Notocypraea* shell structure, variation and colour, [Griffiths, R. J.] (3); Hinge structure on the nacreous inner shell layer of *Placenticerus*, Haas, O. (1); Formation of the periostracum, Hillman, R. E.; Shell form of British species of *Tellina*, figs., Holme, N. A. (2); *Venerupis rhomboides*, *V. decussata*, *V. aurea* and *V. pullastra*, figs., Holme, N. A. (3); Molluscan shells as protection for the animal within, Kaljo, D.; Shell structure of *Berthelinia limax* examined in sections, Kawaguti & Yamasu (1); Involution in *Platylenticeras*, Kemper, E.; Abnormal belemnite rostra, Khalilov & Alizade; Origin of shell calcium content, Klein & Traut; Right valve of "*Spisula*" *hartingsi* described for the first time, Kruijff, J. F. N.; Shell variations of *Amphidromus*, Laidlaw & Solem; Shell colour and banding systems of *Cepaea nemoralis*, Lamotte, M.; *Eupleura caudata*, MacKenzie, C. L. (2); *Haslula cinerea* shell shape, larval shell and protoconch structure, Marcus, Ev. & Er. (1); Shell

structure of Brazilian *Siphonaria hispida*, Marcus, Ev. & Er. (2); *Tricolia affinis* shell and operculum structure, Marcus, Ev. & Er. (3); Shell morphology in larval and postlarval stages of *Placopecten magellanicus*, Merrill, A. S. (2); Shell shape in *Pila*, Lanistes, Afropomus, *Saulea*, *Pomacea*, *Marisa* and *Aeolene*, Michelson, E. H. (1); Study on *Ancylus fluviatilis* distribution and its correlation with shell structure, Miegel, H. (3); *Batillaria multiformis*, Nagasawa, J.; Process of shell growth and shell regeneration, Hair & Muthe; *Carinaria* spp. Japanese waters, Okutani, T. (2); Value of conchological methods for identification of species, Paraense, W. L. (1); Hinge line in *Entolium* and *Chlamys*, Pasternak, S. I. (2); *Grammoceras fallaciosum*, figs., Perrin & Théobald; Key to identification of shells of land snails around Reading, Quick, H. E.; Biological significance of the ammonite shell, Rangheard & Théobald (1); *Monetaria annulus*, *M. moneta* and *Erosaria helvola*, Schilder, F. A. (1); Sexual differences in shells of Cypræidae, Schilder, F. A. & M. (2); Jurassic belemnites, Schwegler, E.; Deformation of the shell of Miocene *Inoceramus*, each part of the shell treated as a separate unit, Seitz, O.; Taxonomic significance of the ammonite suture line, Shevryev, A. A. (1); Bubble shells, sea slugs and tusk shells, Street, P.; Microstructure of *Hyolithes* shells showing affinities with Cephalopoda and Gastropoda, Syssoev, V. A. (1); Problems of determination of gastropod shells, Tembrock, M. L.; *Lymnaea stagnalis*, Terentjev, P. V.; Operculum of Atlantidae as a taxonomic criterion, Tokioka, T.; Structure and pearl formation, Tsujii, T.; Chemical and mineralogical composition of fossil shells, Turekian & Armstrong; Endosiphuncular structures of nautiloids, Unklesbay, A. G. (2); Major shell types, structures and photographs of more unusual shells, Voss, G. L.; Electron microscope study of crystal layer formation in *Crassostrea*, Watabe & Wilbur; *Gundlachia* figs., from N. France, Wautier & Odièvre; Operculum and its supports in the Cambrian pteropod *Hyolithes*, Yochelson, E. L. (1).

Conchometry.—Shell proportions and growth rings in adult *Venus striatula*, Ansell, A. D. (1); *Corbicula limosa*, Barabbar, B. C.; *Cochlicella* species from Belgium, Boulangé, J.; Conchometrical table relative to *Cypraea tigris schilderiana* Cate, Cate, C. N. (3); *Vexillum regina* and related forms, diagram and tables, Cate, J. M. (4); Achatinellidae and Tornatellidae, Cooke & Kondo; *Spathopsis* species of West Africa, graphs and figs., Daget, J. (1); Biometrical study of *Mytilus* population, Génovèse, S.; Biometrical study of some mytiloids, Hajkr, Růžicka & Pranti; Shell growth, in equiangular spirals ($r = aekoot.w$), spirals in bivalves and univalves, Hutton, P. B.; Shell forms of *Berthelinia limax* observed throughout their entire period of growth, Kawaguti & Yamasu (1); *Cypraea tigris schilderiana* in the Hawaiian Islands and other Pacific areas, Kay, A. (1); *Mytilus edulis* contrasted with *M. galloprovincialis*, Lewis & Powell; *Heterotrigonia subovalis*, Nakano, M. (2); *Grammoceras fallaciosum*, figs., Perrin & Théobald; Ammonite suture line and shell shape, Rangheard & Théobald (1); *Mesodesma mactroides*, Rapoport, B. H.; Geometry of coiling in gastropods, Raup, D. M.; Measurements and characteristics of species of *Pyrgulifera* especially *P. glypta*, tables, Rey, R.; Biometrical analysis of nucleolar ontogeny, Růžicka, Pranti & Hajkr; Conchometry of *Mauritia arabica* (L.) Tables and graphs., Schilder, F. A. (3); Size of embryonic whorls in Miocene Vermetidae, Schmidt, W. J.

Mantle and Associated Structures.—Ligament and mantle isthmus of Veneracea, Ansell, A. D. (2); Cutaneous glands in *Helix aspersa*, Campion, M.; Mantle as a distin-

guishing character between *Cypraea carnea* and *C. leviathan*, Kay, A. (8); Pallial cavity and associated structures in *Tricolia affinis*, Marcus, Ev. & Er. (3); Detailed histology of mantles, siphons and ctenidia of *Martesia*, Srinivasan, V. V. (2); Form and ciliation of the labial palps of *Acila*, Stasek, C. R.

Cytology.—Form and function of the brush border in *Mytilus* gill epithelial cells, Atzelius, B. A.; Cytochemical study of the oocytes of *Planorbis*, Albanese & Bolognari; Golgi apparatus of *Australorbis*, particular reference to spermiogenesis, Barth & Jansen; *Helix aspersa* acroblast study, Bradbury, Chou & Meek; Cytological fixation of *Crassostrea* mantle, Combs, R. M.; Histology of the foot and associated glands of *Discus rotundatus*, Elves, M. W.; Anatomy and histology of *Atlanta*, Furnestin, M.-L. Of the three parts (enzyme, white and phenol glands) of the byssus gland in *Mytilus*, Gerzeli, G.; Histological structure of *Anodonta* ciliated epithelia, Gibbons, I. R. (1); Nervous network in the epithelium of *Omatostrephes* suckers, Graziadei, P. (2); Morphology and histology of *Sepiolina* luminous gland, Haneda, Y.; Electron microscope study of the adductor muscle of *Fabulina*, Kawaguti & Ikemoto; Histological study of *Berthelinia limax* mantle, Kawaguti & Yamasu (1); Path of eggs and spermatozoa of *Berthelinia limax* traced in serial sections, Kawaguti & Yamasu (2); Histology of the cephalic gland of *Arion rufus*, Mol, J. J. van; Recent work on the cytology of animal parthenogenesis, Peacock & Weidmann; Of cilia of mussel gill epithelium, Satir, P.; Ciliary mechanisms of *Martesia* mantle and ctenidia, Srinivasan, V. V. (2); Tissue studies of hosts of schistosome miracidia, Sudds, Jr., R. H.; Of the glands associated with the reproductive system of *Tritonia hombergi*, Thompson, T. E. (1); Electron microscopic study of the gastropod golgi cycle, Worley & Hershenov.

Sense Organs.—Position and structure of eyes in *Littorina* spp., Charles, G. H. (1); On the vision of *Pterocera* and *Strombus*, Fischer, P. H. (3); Visual photoreceptor structures, Miller, W. H.; Cephalopod eye structure, Orlov & Bykov; Modified cilia of scallop eye retinal cells, Satir, P.; Parallel development of sensory receptors in man and the octopus, Wells, M. J. (2); Electron microscopy of squid retina, Zonana & Lorenzo.

Alimentary System.—Sorting mechanism of the stomach in British Veneracea, Ansell, A. D. (2); Boring mechanisms in gastropods, Carriker, M. E. (1); Alimentary canal pigmentation, Figueras [Montfort], A. (1); British Rissoacea, figs., Fretter & Patil; Feeding and structure of the alimentary canal of *Hastula cinerea*, Marcus, Ev. & Er. (1); Alimentary tract of *Siphonaria hispida*, Marcus, Ev. & Er. (2); *Tricolia affinis cruenta*, Marcus, Ev. & Er. (3); Hepatopancreas and digestion in *Nassa reticulata*, Martoja, M. (1); Stomach and digestive diverticula of *Solenya parkinsoni*, Owen, G.; Crystalline style of herbivorous gastropods, Robertson, R. (4); Structure and histology of *Anadara trapezia* stomach, Sullivan, G. E.; Digestive system of *Trichotoxon thikensis* figs., Urban, S.; Oesophageal histology of *Aplysia* spp., Winkler & Tilton.

Muscular System.—British Veneracea, Ansell, A. D. (2); *Crassostrea angulata* structure of the muscle fibres in the translucent part of the adductor, Hanson & Lowy; Muscle attachment impressions in Cretaceous ammonites, Jones, D. L.; Electron microscopy of the adductor muscle of *Fabulina*, Kawaguti & Ikemoto; Columellar muscles of *Tricolia affinis cruenta*, Marcus, Ev. & Er. (3); Microscopical study of the spread of muscle contractions in *Helix pomatia*, Schlotte, F.-W.

Vascular System.—Electron micrograph of *Helix pomatia* haemocyanin, Bruggen, Wiebenga & Gruber; Morphology of the heart of *Murex*, *Helix* and *Aplysia*, Jullien, Cardot, Joly & Verneaux (2); Arterial system of *Semperula maculata*, Kenny & Inamdar; Morphological characteristics of *Gryphaea gigas* blood corpuscles, Tanaka, Takasugi & Maoka.

Excretory and Secretory Organs.—*Helix pomatia* kidney, Bouillon & Van Mol; Glands associated with the foot in *Rissoacea*, Fretter & Patil; Renal organ of *Hastula cinerea*, Marcus, Ev. & Er. (1); Kidney structure in *Tricola affinis cruenta*, Marcus, Ev. & Er. (3); Characteristic anatomical differences found in the kidney structure of the Pilidae, Michelson, E. H. (1); Renal region of *Australorbis glabratus*, Paraense, W. L. (1); *Trichotoxon thikensis* gland structures, figs., Urban, S.

Respiratory System.—*Mytilus edulis* from brackish- and sea-water, respiration study, Erman, P.

Nervous System.—*Venus striatula*, Ansell, A. D. (2); *Scaphitella dageti* n.gen., n.sp., fig., Binder, E.; Nerve supply to the muscle layer of *Octopus vulgaris* stomach, Botar, J. (1); Nerve supply to the stomach epithelium of *Octopus vulgaris*, Botar, J. (2); *Sepia* brain anatomy, Boycott, B. B.; *Hermæina smithi* figs., Gonor, J. J.; Morphology and anatomy of *Viviparus viviparus* nervous system, Gorf, A.; Oral lip, *Sepia officinalis*, Graziadei, F. (1); Structure of the nervous supply to suckers of *Ommatostrephes*, Graziadei, P. (2) & (3); Path of the giant cell axons in the ganglia of *Aplysia depilans*, Hughes & Tauc (1); Gomori-positive neurosecretory cells in the central ganglia of *Lymnaea*, Lever, Kok, Meuleman et al.; Central nervous system of the *Toxoglossa* studied on *Hastula cinerea*, Marcus, Ev. & Er. (1); Central nervous system of *Siphonaria hispida*, Marcus, Ev. & Er. (2); *Tricola affinis cruenta*, Marcus, Ev. & Er. (3); *Archachatina (Calachatina) marginata* ganglia, pallial, visceral and cervical nerves, Nisbet, R. H. (1); Cytological and histological structure of the slug nervous system, Pelluet & Lane; Nuclei of the pulmonate central nervous system, Quattrini, D. (1); Nucleoli of gastropod nerve cells, Quattrini, D. (2); Formation of the nervous system and torsion of *Lymnaea stagnalis*, Régondaud, J. (2); Comparison of the nervous system of Pleurocerids, Rosewater, J. (2); New species of *Crystallophrisson* from the Pacific, Schwabl, M. (2); Nervous system of *Trichotoxon thikensis* figs., Urban, S.; Anatomy of neuro-endocrine complex of *Gundlachia*, Wautier, Ceccatty, Richardot, et al.; Centres for tactile and visual learning in *Octopus* brain, Wells, M. J. (3); *Acavus phoenix* figs., Wignarajah, S.; Brain and optic lobes of *Octopus vulgaris*, Young, J. Z. (2).

Reproductive System.—British Veneracea, Ansell, A. D. (2); *Venus striatula* primary gonad, Ansell, A. D. (3); *Planorbis metidjensis*, Barbosa, Carneiro & Barbosa (1); *Biomphalaria pfeifferi*, Barbosa, Carneiro & Barbosa (2); *Littorina saxatilis* figs., Berry, A. J. (1); Genitalia of three species of *Cochlicella*, *ventricosa*, *acuta* and *conoides*, Boulange, J.; Aboral reproductive structures of ammonites, Davitashvili & Khimshiashvili; Female *Pomatias elegans*, Ducros, C.; Reproductive system of *Succinea pfeifferi*, Duncan, C. J.; Moravian Mollusca, figs., Flasar, I. (1); Anatomical variations of *Oxytoma retusa*, Fransen, D.; Centriole replication during spermatogenesis in *Viviparus*, Gall, J. G.; *Hermæina smithi*, figs., Gonor, J. J.; Genitalia of *Paliferia fosteri* and *P. megalphallica*, figs., Grimam, F. W. (1); Genitalia of *Bekko-chlamys serenus* Pilsbry & Hirase, and *Yamatochlamys (Ceratochlamys) ceratodes* (Gude), fig'd., Habe, T. (4); *Cochlicopa* Risso 1826, from Czechoslovakia, Hudec, V.

(1); *Arion fasciatus* and *A. circumscriptus* compared, Hudec, V. (2); Zonitidae from Neratovice region of eastern Czechoslovakia, Hudec, V. (3); *Oxychilus (Riedelius) inopinatus*, Hudec, V. (4); *Halotis* gonads and spawning, Ino & Harada; *Helix pomatia* albumen gland, Ionescu-Varo, M.; *Berthelinia limax* figs., Kawaguti & Yamasu (2); Histology, morphology and histochemistry *Arion ater rufus*, László, O.; Male and female reproductive organs of *Hastula cinerea*, Marcus, Ev. & Er. (1); Developmental stages and general structure of *Siphonaria hispida* reproductive organs, Marcus, Ev. & Er. (2); *Tricola affinis cruenta* reproductive structure and figs., Marcus, Ev. & Er. (3); Characteristic anatomical differences of the Pilidae found in the penial complex, Michelson, E. H. (1); Genital system characters when used in correlation with the renal ridge, permit reliable identification of species, Paraense, W. L. (1); Histology and seasonal variation of *Mytilus* gonads, Rensoni, A. (1) & (2); *Oxychilus (Schistophallus) oscar*, figs., Riedel, A.; Of members of the Cypræidae, Schilder, F. A. (1); Anatomy of slug reproductive organs, Schouten, A. R.; Structure and mode of functioning in *Tritonia hombergi*, Thompson, T. E. (1); Organs of *Trichotoxon thikensis* figs., Urban, S.; Helicarionidae genitalia, figs., Verdcourt, E. (3); *Trichotoxon* spp. from E. Africa, Verdcourt & Polhill; *Boettgerilla compressa*, *B. pallens* and *B. vermiformis* pls. 1-2, Wiktor, A.; *Lunatia nitida* figs., Ziegelmeier, E. (3).

PHYSIOLOGY

General Studies.—Visual and physiological selection in *Cepaea*, Cain & Sheppard; Phosphorous metabolism of squid axons, Caldwell, P. C.; Salinity tolerances of *Polanopogon jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); *Littorina* spp. in estuaries, [Clay, E.] (2); Tolerances of *Macoma balthica* and *Tellina tenuis*, [Clay, E.] (3); Nucleic acid and protein metabolism of *Lymnaea* embryo, Collier, J. R.; Bacterial flora of *Crassostrea gigas* and its relation to post-mortem spoilage, Colwell & Liston; Respiration of *Mytilus edulis* tissues and tissue homogenates, Erman, P.; Beat frequency and metachronal wavelength of lateral cilia on *Mytilus* gills, Gosselin, R. E.; Metabolic patterns in *Mytilus*, Kasuga & Ishida; Chemoreception in gastropods, Kohn, A. J. (3); Tobacco mosaic virus inhibitors in *Anodonta*, Limasset, P.; Metabolism of *Mytilus*, Lubet, M. P.; Heme-heme interactions in the oxygen equilibrium of chitons and gastropods, Manwell, C.; Storage of glycogen in the tissues of the molluscan groups compared, Martin, A. W.; *In vitro* maintenance of adult *Barnes* organs, Sengel, P.; Thermoregulation of *Unio* spermatoids, Svinikin, V. B.; Acid secretion in British Cypræidae, Thompson, T. E. (2); Vitamin B₁₂ metabolism of *Tapes japonica*, Tosawa & Sagara (1); Xanthine dehydrogenases and metabolic patterns in bivalves, Tsuzuki, K.

Nervous System.—Leakage current rectification in the squid giant axon, Adelman & Taylor; Physiology of excitation in *Aplysia* ganglia, Arvanitaki-Chalazonitis & Chalazonitis (1); Slow waves and associated spiking in *Aplysia* nerve cells, Arvanitaki [-Chalazonitis] & Chalazonitis (2); Replacement of *Loligo* giant nerve fibre protoplasm with artificial solutions, Baker, Fodgkin & Shaw; Functional organization of *Sepia* brain as revealed by electrical stimulation, Boycott, B. B.; *Aplysia* generation potentials, Chalazonitis & Arvanitaki-Chalazonitis (1); Repetitive synaptic activation in *Aplysia* ganglion nerve cells, Chalazonitis & Arvanitaki (2); Photopotentials of *Sepia* giant axons sensitized to light, Chalazonitis & Chagneux; Optic lobe inhibition of compensatory reflexes in blinded *Octopus vulgaris* rotation experiments, Dijkgraaf, S.; Sodium permeability in *Loligo* nerve, Frankenhaeuser, B.; Stretch and conduction velocity

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Alimentation.—Peptidase activity in *Octopus vulgaris*, Arvy, L. (1); Boring mechanisms in gastropods, Carrier, M. R. (1); Arylsulphatase activity in *Helix* digestive juice and gland, Dodgson & Powell; Digestive enzymes and cellulolytic bacteria of *Achatina fulica* and other Gastropoda, Ghose, K. C. (2); Lipase of *Venerupis philippinarum* digestive diverticula, Hosumi, M.; The hepatopancreas and digestion in *Nassa reticulata*, Martoja, M. (1); Absorption of radioactive materials by *Nassa*, Martoja, M. (2); Nutrition in *Solemya parkinsoni*, Owen, G.; Cellulolytic activity in *Levantina hirsutissima*, Parnas, I. (1); Auto-production of cellulases in the hepatopancreas of *Levantina*, Parnas, I. (2); Labial palp grading of *Martesia* food particles, Srinivasan, V. V. (2); Digestive process and ciliary currents in *Anadara trapezia*, Sullivan, G. E.; Chitinase concentration in stomach of *Orychilus cellarius*, Tercats & Jeuniaux; Comparative physiology of digestion, van Weel, P. B.; Carbohydrase and protease in the salivary and mid-gut glands of *Babylonia japonica*, Yamaguchi, Tsukamoto, Oshio, Yago & Takatsuki.

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Hydrolysis of polysaccharide sulphate esters by a sulphatase preparation from *Charonia lampas*, Takahashi & Egami; Chemical constituents of the "meat" of *Turbo cornutus* and differences of behaviour on cooking, Takahashi & Tanaka; Blood corpuscles of *Gryphaea gigas*, Tanaka, Takasugi & Maoka; Chemical studies on the meat of *Haliotis discus hannai*, Tanikawa & Yamashita; Properties of β -glucuronidase preparations of *Helix pomatia* and *Patella vulgata*, Wakabayashi & Fishman; Molluscan neurohormones, Welsh, J. H. (1); Chemical composition of *Helix* gelatin, Williams, A. P.; Carbohydase and protease in the salivary and mid-gut glands of *Babylonia japonica*, Yamaguchi, Oshio, Tsukamoto, Yago & Takatsuki; Chemo-tactile learning in *Octopus*, Young, J. Z. (2); Sensitivity of ciliated epithelium of *Mytilus galloprovincialis* when subjected to increased temperatures, Zhirmunskii, A. V.

DEVELOPMENT, EVOLUTION AND GENETICS

Oogenesis and Oology.—Nucleoli of *Planorbis* oocytes, Albanese & Bolognari; Mechanisms of cellulation of the egg of *Loligo pealii*, Arnold, J. M. (2); *Rumina decollata*, Batts, J. H.; Spontaneous parthenogenetic development of *Lymanaea* eggs, Bretschneider, L. H.; Egg ring laid by *Ceratosoma* fails to hatch in captivity, Burn, R. (2); Biology of early stages of *Mercenaria mercenaria*, Carriker, M. E. (2); Induction and/or activation by the polar lobe region in *Ilyanassa*, Clement, A. C.; Egg capsule of *Amnicola limosa*, Davis, C. C.; Egg laying and development in *Io*, Dazo, B. C.; Of eggs collected in Marlborough water meadows and hatched in the laboratory, Disney, R. H. L.; Gametes, fertilization and early development of *Achatina* and *Macrochlamys*, Ghose, K. C. (1); Nature of *Neptunea* egg-capsules, Golikov, A. N.; Spiral cleavage in *Haminea hydatis* eggs, Grell, K. G.; *Ommastrephes sloani pacificus* Urugo Bay, Oki Islands, Hamabe, M. (2); Demersal, telolecithal ellipsoid eggs of *Ommastrephes*, Hamabe, M. (3); Egg capsule size and content, *Melongena corona*, Hathaway & Woodburn; Embryonic development, in particular ooplasmic segregation of *Succinea putris*, Jura, C.; Morphology of spermatzoa and its relationship with secondary egg membranes, Karpevich, A. F.; Krebs and pentose cycle dehydrogenase systems in *Spisula* eggs, Kivy-Rosenberg & Ray; Egg masses of *Conus* in Hawaii, Kohn, A. J. (1); Egg capsules of 11 species of *Conus* collected on coral reefs in the Indian Ocean, Kohn, A. J. (2); Nature of the eggs in the major genera of *Pilidae*, Michelson, E. H. (1); Variations in the cephalic gland during growth and development of *Arion rufus*, Mol, J. J. van; Effect of cobalt on *Ilyanassa* embryos and eggs, Morrill, J. B. (1); Protein differentiation of *Ilyanassa obsoleta*, Morrill, J. B. (3); Blastokinesis of *Octopus vulgaris* embryos, Orelli & Maingold-Wirz; Spawning and early development of *Pecten irradians*, Outten, L. M.; Cytology of animal parthenogenesis, Peacock & Weidmann; Oblique stratification in *Lymanaea* eggs after centrifugation, Raven & Tates; Freeze-substitution studies of *Spisula solidissima* oocytes, Rehman, L. I. (1) & (2); Egg production and life span of *Australorbis glabratus*, Ritchie, Berrios-Duran, Dewesse & Rosa-Amador; Egg capsules of *Septoteuthis lessoniana* figs., Sang & Ohshima; Electron transport in *Spisula* eggs, Strittmatter, P. & C. F.; Structure and development of the egg mass of *Tritonia hombergi*, Thompson, T. E. (1); Hatching of *Octopus vulgaris* eggs, Ververs, H. G.; "Membrane knotting" between *Lymanaea* blastomeres, Waddington, Perry & Okada; Origin of protein yolk from the Golgi apparatus in Gastropoda, Worley & Moriber; Numbers and sizes of eggs laid by Calyptraeidae and length of larval life, Wyatt, H. V. (2); Of *Lunatia nitida*, Ziegelmeier, E. (3).

Embryology and Embryonic Stages.—*Pandora inaequalis* early development, Allen, J. A. (2); Obtaining, dissociating and culturing cells and organs of *Loligo pealii*, Arnold, J. M. (1); Cellulation of the egg of *Loligo pealii*, Arnold, J. M. (2); *Littorina saxatilis* growth rate of early stages, Berry, A. J. (1); Serotonin-like substances in gastropod embryogenesis, Busnikov & Manukhin; Functional morphology of early stages of *Mercenaria*, Carriker, M. E. (2); Role of the polar lobe region in embryonic determination in *Ilyanassa*, Clement, A. C.; Protein metabolism of the *Ilyanassa* embryo, Collier, J. R.; Length of post-larval survival, Condé, V.; Cytochemical investigation of early development of *Chiton tuberculatus*, Cowden, R. E.; Development of female reproductive organs of *Pomatias elegans*, Ducros, C.; *Cardium edule*, Figueras Monfort, A. (3); Relationships of the larval stages of *Mutela bourguignati*, Fryer, G.; *Ommastrephes sloani pacificus* early embryology, Hamabe, M. (3) & (4); *Melongena corona* embryonic stages, Hathaway & Woodburn; Cytological and cytochemical observations on ooplasmic segregation of *Succinea putris*, Jura, C.; Krebs and pentose cycle dehydrogenase systems in *Spisula* eggs, Kivy-Rosenberg & Ray; Embryos and embryonic cases of *Euplevra caudata*, MacKenzie, C. L. (2); Shell shape and colouration of larval and post larval *Placopecten magellanicus*, Merrill A. S. (2); Effects of CoCl_2 on the eggs and embryos of *Ilyanassa*, Morrill, J. B. (1); Shell development in bivalved molluscs, Nevesskaya, L. A.; Development of pulmonary and pallial cavities in *Lymanaea stagnalis*, Régnaud, J. (1); Organogenesis of the nervous system and torsion in *Lymanaea*, Régnaud J. (2); Embryonal development of *Septoteuthis lessoniana*, Sang & Ohshima; Non pelagic development of Miocene Vermetidae, Schmidt, W. J.; Electron transport in *Spisula* developing embryos, Strittmatter, P. & C. F.; Development of the reproductive system of *Tritonia hombergi* embryos, Thompson, T. E. (1); "Membrane knotting" between *Lymanaea* blastomeres, Waddington, Perry & Okada; Origin of protein yolk from the Golgi apparatus in gastropods, Worley & Moriber; Study of larval life duration in laboratory reared specimens of *Calyptraea chinensis*, Wyatt, H. V. (2).

Spermatogenesis.—Spermiogenesis of *Australorbis glabratus*, Barth & Jansen; Sperm production and penis condition in *Littorina saxatilis*, Berry, A. J. (1); Study of acroblasts [cytoplasmic inclusions in spermatocytes and spermatids] of *Helix aspersa*, Bradbury, Chou & Meek; Cytological study of spermatogenesis of *Acroloxus lacustris*, Burch, J. B. (5); Centriole replication in *Viviparus*, Gall, J. G.; Seasonal periodicity of gonads of *Achatina* and *Macrochlamys*, Ghose, K. C. (1); Spermatogenesis of *Turritella communis*, Idelman, S.; Differences in the morphology of bivalve spermatozoa related to changes in the medium and egg dimensions, Karpevich, A. F.; *Mytilus* gametogenesis, Lubet, M. P.; Ionic gradients in *Mytilus edulis* spermatozoa, Steinbach & Dunham; Experimental cytoplasmic elimination during *Calyptraea* spermiogenesis, Streiff, W.; Thermostability of spermatozooids of *Unio* spp., Svinikin, V. B.; Atypical spermatozoa of *Cipangopaludina* and *Semismulcospira*, Yoshida, S.

Larval Stages.—*Pandora inaequalis* larval stages, short larval life ensures minimum dispersal, Allen, J. A. (2); Development of larval *Venus striatula* in laboratory cultures, Ansell, A. D. (1); Glodidia of *Diplodon* and *Elliptio* in central and south America, Bonetto, A. A. (3); Pediveliger stage of *Mercenaria*, Carriker, M. E. (2); Cytochemical investigation of oögenesis in *Chiton tuberculatus*, Cowden, R. E.; Free living larva *Mutela bourguignati*, figs., Fryer, G.; Early embryonic develop-

ment and larval morphology of *Ommastrephes*, Hamabe, M. (3); *Ommastrephes sloani pacificus* rhynchoteuthis larva, Hamabe, M. (4); Opisthobranch veligers, Hamatani, I. (1); Veligers of Japanese opisthobranchs, Hamatani, I. (2); Larval development of *Conus* in Hawaii, Kohn, A. J. (1); Larval development of *Conus* from the Indian Ocean, Kohn, A. J. (2); Larvae and spatfall of oysters in the Netherlands, Koringa, P.; Photographs of 24 hours old *Teredo* larva, Lane, C. E.; Postembryonic changes in *Arion* reproductive system, Lüsüs, O.; Shell morphology of the larval stage of *Placopecten magellanicus*, Merrill, A. S. (2); *Carinaria* larval history, Okutani, T. (2); The veliger larva of *Pinna atrina japonica*, Ota, S.; Larvae of *Octopus vulgaris* hatched in an aquarium, Ververs, H. G.; Duration of embryonic life in *Calyptopaea chinensis*, Wyatt, H. V. (2).

Metamorphosis.—Metamorphosis of the free living larva of *Mutela bourguignati* and settlement as a parasitic, haustorial larva on *Barbus altianalis radcliffei*, Fryer, G.; Partial metamorphosis in *Anomia simplex*, Loosanoff, V. L.; Shell morphology of *Placopecten magellanicus*, Merrill, A. S. (2); Metamorphosis of the veliger of *Nassarius obsoletus* in response to bottom sediment, Schelltema, R. S.

Growth.—*Gibbula sytuae* shell changes during growth, Amitrov, O. V.; *Littorina saxatilis* growth and fluctuations of ovary and brood pouch contents, Berry, A. J. (1); *Mesodema mactroides*, Cabrera, S. E.; *Rapana bezoar*, Chukhchin, V. D. (2); Hatching process in *Amnicola limosa*, Davis, C. C.; Seasonal weight variation and chemical content of *Crassostrea gryphoides*, Durve & Bal (1); Growth rate and egg production of *Australorbis glabratus* fed on algal food, Erickson & Caldwell; Growth of *Australorbis glabratus* fed on algal food, Erickson, Ritchie & Caldwell; Growth and structural changes of the haustorial larva of *Mutela bourguignati*, Fryer, G.; Sexual dimorphism in shell length of *Umbilicaria hesitata*, Griffiths, R. J. (7); Variations in growth and density of freshwater snails in the west of Scotland, Hunter, W. R. (1); Growth difference between sexes of *Oncomelania* spp., Komiya & Kojima; Recruitment, growth and mortality rates in a *Modiolus* population, Kuenzler, E. J. (1); In *Arion ater rufus* and relationship with sexual phases, Lüsüs, O.; *Lymanaea humilis*, McCraw, B. M.; *Eupleura caudata* growth study, MacKenzie, C. L. (2); Growth and shell repair in *Marisa rotula*, Mallory & Crown; Temperature influence on growth of *Australorbis glabratus* in the laboratory, Michelson, E. H. (3); Endocrine activity and growth regulating mechanism associated with the cephalic gland of *Arion rufus*, Mol, J. J. van; *Teredo furcillatus*, Nagabhushanam, R. (3); Rate of growth of *Banksia indica* in Madras, Nair, M. B.; Egg masses, hatching and growth of *Bulinus truncatus*, Najarian, H. H.; Increase in ovotestis weight with increase in body weight in *Arion*, Pelluet & Lane; Growth rate of *Australorbis glabratus*, Ritchie, Berrios-Duran, Dewesse & Rosa-Amador; Biometrical analysis of nucleonid growth, Růžická, Prantl & Hajkr; *Scpio-teuthis lesosimensis*, Sang & Ohshima; Age and growth of *Macoma baltica* populations, Segerstråle, S. G.; Growth of *Crassostrea gigas* in the Washington area, U.S.A., Sparks & Chew; Age and growth of gastropods from Dar es Salaam, Spry, J. F.; Of spat and adults of *Crassostrea cucullata*, Van Someren & Whitehead; Of oysters, Waugh, G. D.

Life History and Sex Ratios.—Oviposition of some Egyptian snails, Abdel-Ghani, A. F.; 388 females to 377 males in a study of *Venus striatula* in Kames Bay, Ansell, A. D. (1); Development of the primary gonad in *Venus striatula*, Ansell, A. D. (3); *Corbicula limosa*,

Baraibar, B. C.; *Rumina decollata*, Batts, J. H.; Copulation, sperm storage and egg production in *Littorina saxatilis*, Berry, A. J. (1); Parthenogenetic development of *Lymanaea* eggs, Bretschneider, L. H.; Reproduction of *Rapana bezoar* in the Black Sea, Chukhchin, V. D. (1); *Polanopyrgus jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); *Littorina littorea*, *L. littoralis*, *L. saxatilis* and *L. neritoides*, [Clay, E.] (2); *Tellina tenuis* and *Macoma balthica*, [Clay, E.] (3); British Rissocaea figs., Fretter & Patil; Environmental conditions and spawning in Californian Acaecidae, Fritchman, H. K. (2); Developmental life history of *Mutela bourguignati*, Fryer, G.; Sexual dimorphism in Cypraea, Griffiths, R. J. (7); *Pelodoris atromaculata*, Haefelfinger, H. R. (2); Copulation of *Ommastrephes sloani pacificus*, Hamabe, M. (1); Spawning behaviour of *Ommastrephes sloani pacificus*, Hamabe, M. (2); Biology and ecology of *Mercenaria mercenaria*, Heppell, D. (2); Courtship, mating and egg-laying behaviour in the Limacidae, Karlin & Bacon; Self fertilization in *Berthelinia limax*, Kawaguti & Yamasu (2); Number of eggs produced, egg diameter, length of development before hatching and stage of hatching of Hawaiian *Conus*, Kohn, A. J. (1); Growth difference of *Oncomelania nosophora* and *O. hupensis* between sexes, Komiya & Kojima; *Anomia simplex* development and the environment, Loosanoff, V. L.; *Lymanaea humilis*, McCraw, B. M.; Copulation and overwintering of spermatozoa in *Eupleura caudata*, MacKenzie, C. L. (2); Primitive and specialized characters of *Siphonaria hispida*, Marcus, E. & Er. (2); Fecundity of *Australorbis glabratus* at temperatures of 25, 30, and 35° C., Michelson, E. H. (3); Egg-laying capacity of grouped and single *Bulinus truncatus* in relation to snail size, Najarian, H. H.; Rearing of young cuttlefish and squid, Ohshima & Sang; Effect of light on spawning of *Pecten irradians*, Outten, L. M.; Additional note on ovoviviparous *Turritella*, Palmer, K. V. W. (2); Increase in egg numbers in ovotestis of *Arion* after tentacle removal, Pelluet & Lane; Sexual differences in Cypraea, Schilder, F. A. & M. (2); Jurassic ammonites, Shevryev, A. A. (1); Breeding of California chitons, Thorpe, jr., S. R.; *Cassia cornuta* sex and shell, Weaver, C. S. (6).

Reproductive Cycles.—Reproductive cycle of *Venus striatula* in Kames Bay, Millport, Ansell, A. D. (1); Problems of fertilization and structure of ammonites, Davitashvili & Khimshashvili; Reproduction of *Australorbis glabratus* when fed algal food, Erickson, Ritchie & Caldwell; Reproductive cycle of Californian Acaecidae, Fritchman, H. K. (1) & (2); Gametes, fertilization and gonadal activities of *Achatina* and *Macrochlamys*, Ghose, K. C. (1); *Mytilus edulis* off Finland, reproduction in the summer 1960, Heilonen, A.; Courtship, mating and egg-laying behaviour in the Limacidae, Karlin & Bacon; Spawning behaviour of *Conus* in Hawaii, Kohn, A. J. (1); Sexual phases of *Arion* a protandric ♂, Lüsüs, O.; *Eupleura caudata* age and height at sexual maturity, MacKenzie, C. L. (2); Sexual maturation in *Eledone cirrhosa*, Morales Segui, E. (3); Functional male and female phases in *Calyptopaea chinensis*, Wyatt, H. V. (1).

Evolution.—Of the class Mollusca, Ax, P.; Of abyssal Mollusca, Clarke, jr., A. H. (1); Origin and evolution of Desmoceratidae, Collignon, M. (3); Origin and evolution of the Lake Baikal fauna, Dzussova & Shapiro; Of the Cambrian cephalopods, Flower, R. H. (1); Evolution and affinities of the fossil Cephalopoda, Flower, R. H. (2); Evolution of Perisphinctidae ribs, Geyer, O. F. (2); Of Jurassic pelecypoda, Hayami, I. (3); Of Astariidae from the Oligocene to present day, Hinsch, W.; Hypo-

theses to explain the origin of the Clymenids now that *Acanthoclymenia* = *Manticoceras*, House, M. R.; Ammonoid evolution in the early and middle Carboniferous, Librovitch, L. S.; Development of the freshwater molluscan fauna of Asia and the origin of the Baikal fauna, Martinson, G. G. (2); Origin of the oysters, Newell, N. D.; Biotic associations and extinction, Nicol, D.; Study of radulae in the evolution of Atlantidae, Richter, G. (1); Evolution of non-marine Mollusca in Cretaceous and Tertiary periods, Russell, L. S.; Relationships of some Octopoda Incirrata discussed on the basis of their ontogenies, evolution and classification, Sacarrão, G. F.; Microevolution of Mollusca on Mediterranean islands, Sacchi, C. F. (5); Origin of the Ammonitina, Schindewolf, O. H. (1); Of Carboniferous Actinoceratoidea, Shimansky, V. M. (3); Role of the protobranch feeding organs in evolution of the Bivalvia, Stasek, C. R.; Mode of distribution and evolution of the mollusc populations of Malaya, Tweedie, M. W. F.; Sea shells, half a billion years evolving, Voss, G. L.; Parallel evolution and systematics, Yakovlev, N. N.

Phylogeny and Ontogeny.—Phylogeny of *Neohibolites minimus*, Aliade, A. A. (3); Phylogeny of the Endoceratoidea, Balashov, Z. G. (1); Phylogenetic problems of Jurassic ammonites, Kamyshova-Elpat'evskaya, Nikolaeva & Troitskaya; Phyletic relationships of the Trigoninae, Nakano, M. (1); Ontogeny of bivalved molluscs, Neveskaya, L. A.; Comparison of ontogenies of the Decapoda and Octopoda, Sacarrão, G. F.; Ammonite ontogenetic development, Shevryev, A. A. (1); Ontogenetic development of Triassic *Ceratites* from the Caucasus, Shevryev, A. A. (2); Phylogeny of spiral Nautiloidea, Stumbur, H.

Genetics and Heredity.—Meiosis of *Cepaea nemoralis* studied by microcinematography, Bajer, Hansen-Melander, Melander & Molé-Bajer; Membrane interrelationships during meiosis, Barer, Joseph & Meek; Chromosome numbers and their value in snail systematics, Burch, J. B. (4); Sex chromatin in hermaphrodite and mono-sexual molluscs, Chagas, Procopio-Valle & Barth; Intraspecific variation in four limited snail populations, Hunter, W. R. (2); Factors disturbing the genetic equilibria of *Cepaea nemoralis*, Lamotte, M.; Hybridization in western American haliotids, Owen, R. S.; Crossing experiments with *Australorbis glabratus* and *A. tenagophilus*, Paraense, W. L. (1); Polymorphism in land snails, Robinson, J. V. B.; Colour forms of *Littorina obtusata*, predation selection against orange, Sacchi, C. F. (2); Analysis of different phenotypes in a population of *Euparypha*, Sacchi & Gaudiosi; Compatibility of *Oxychilus draparnaldi* and *O. cellarius*, Schmidt, H. A.

Variation.—Variation in form and size of *Cypraea annettae* Dall, 1909, figs., Cate, C. N. (4); Of *Phenacohelix* Suter 1892, Cumber, R. A.; Variation in the *Polycera elegans* group, Edmunds, M.; Variation in *Littorina saxatilis* from Iberian coasts, Fischer-Piette, Gaillard & Jouin; The reproductive system of *Oxytoma retusa*, Fransen, D.; Pathological growth in slugs, Frömming, Peter & Reichmuth; Variation of Perisphinctidae ribs, Geyer, O. F. (2); Colour sexual dimorphism in *Cypraea gracilis*, Griffiths, R. J. (7); Size dimorphism in the ♂ and ♀ members of the Cypraeidae, Griffiths, R. J. (8); Of *Cardium edule* in the Black Sea, Grossu, A. V.; Extreme degrees of variation shown in shells of *Australorbis glabratus* from Amaralina, Bahia, Paraense, W. L. (1); Position of the umbilicus, variations observed in a population of *Grammoceras*, Perrin & Théobald; Ornamental and colour variation in *Littorina obtusata*, Sacchi, C. F. (2); Selective predation and colouration differences of *Cepaea nemoralis*, Sacchi, C. F. (4); Of

Cypraeidae, Schilder, F. A. & M. (3); Colour variation of Florida *Liguus* and varieties from Cuba and Haiti, Solem, A. (3); Variation in lamellibranchs on the seashore, Street, P.; Variation of *Lymnaea stagnalis* shells, Terentjev, P. V.; In *Gulella pilula* (Preston), Verdecourt, B. (1); Variation of *Limax valentianus*, Walden, H. W. **Teratology.**—Another freak *Conus pulcherrimus*, fig., Anon. (16); Three malformed specimens of *Conus*, Anon. (19); A freak *Conus terebra*, fig., Anon. (23); Malformations of New Caledonia *Cypraea*, Bouge, L. J.; Deformed example of *Littorina littorea*, Le Faucheur, O.; Head warts on *Rumina decollata* (L.), figs., Miles, E. D.; Eye malformations of *Ilyanassa* under lithium chloride treatment, Morrill, J. B. (2); Abnormal embryos, upright and reversed eggs of *Lymnaea* produced by centrifugation before the third cleavage, Raven & Tates.

ECOLOGY

General Studies.—Distribution and general study of *Physa acuta*, Akramovskii & Aliev; Species composition of the San Joaquin River bottom, associations and dominant species, Aldrich, F. A.; Freshwater Mollusca in Kurin reservoir, Aliev, A. D. (2); Mollusca of Tarragona, Spain, Altamira, C.; *Australorbis glabratus* in Brazil, Andrade & Freitas; General hydrobiology of Argentine species of *Ampullaria*, Bachmann, A. O. (1); Intertidal zonation in the south of the Bay of Biscay, Ballantine & Morton; *Corbicula limosa*, Baraibar, B. C.; Grassland Mollusca of East Central Kansas, Basch, Bainer & Wühm; *Rumina decollata*, Batts, J. H.; Recent and subfossil Mollusca of Poland, Berger, L.; Limestone dwelling snails from Bukit Chintamani Malaya, Berry, A. J. (2); Radiocarbon dating of raised beaches in Nordaustlandet, Spitzbergen, Blake, jr. W.; Influence of environmental conditions on epiphyagn production, Bonavita, D.; *Brachyodontes minimus* ecology, Bouchet, J. M.; Marine molluscs from the Bay of Fundy, a general note, Bousfield, E. L. (3); Palaeoclimatology of the Jurassic and palaeotemperature analyses of Belemnoides, Bowen, R. (2); Gastropoda of the Rob and Bessie Welder wildlife refuge, San Patricio Co., Texas, Branson, B. A. (3); Mollusca of the Chirinda forest, Southern Rhodesia, Bruggen, A. C. van (3); Land shells as a critical factor in the dating of post-Pleistocene deposits, Burchell, J. P. T. (1); Opisthobranchs of New South Wales, Burn, R. (1); Notes on a common Victorian nudibranch whilst in captivity, Burn, R. (2); Benthic populations off Roscoff, France, Cabioch, L.; Autecology in early stages of *Mercenaria*, Carriker, M. R. (2); Cephalopoda in the sea and in aquaria, Chlupaty, P.; *Rapana bezoar* in Gudan oyster bed, Chukhehin, V. D. (3); *Phenacohelix* in New Zealand, Cumber, R. A.; Faunal assemblages of the Bandiagara plateau, Daget, J. (2); Ecology and explanations suggested to account for the rare occurrence of *Polycera elegans*, Edmunds, M.; *Cardium edule* sands, Figueras Monfort, A. (2); Deep sea bottom fauna in the N.E. Pacific, Filatova & Levenstein; Radioactive contamination of the environment, Fontaine & Aeberhardt; Determination of lethal high temperatures for *Littorina neritoides*, Fraenkel, G.; Californian Acmaeidae ecology and reproductive cycle, Fritchman, H. K. (2); Adult *Mutela bourguignati*, Fryer, G.; Malacological survey of the Mátra Mts., Hungary, Gebhardt, A. (1); Mollusca of the Danube and Mohács Is. region, Hungary, Gebhardt, A. (2); Intertidal molluscs and oil pollution, George, M.; Parasitic invertebrate faunas, ecological study of infection, Ginetinskaya & Stein; Snail vectors of bilharziasis in Egypt, Gohar & El-Gindy; Black Sea Nudibranchia, Gomoju, M. T.; *Hermaenia smithi* from the west coast of North America, Gonor, J. J.; Mass mortality of a marine fauna after tropical rains and subsequent

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Japan, **Kojima, Y.**; Ammonite mode of life and trails left in the Solnhofener shales, **Kolb, A.**; Pteropoda off Greenland, **Kramp, P. L.**; Invertebrate life in ancient marine basins, **Kuznetsov, V. V.**; *Amphidromus palaceus pura* from Palimanan, Java, **Laidlaw & Solem**; Microecological factors in oyster epizootics, **Laird, M.**; Paleoecology of Pleistocene index fossils, **La Rocque, A.** (1); Latchford's notes on *Elliptio complanatus* (Dillwyn), **La Rocque, A.** (4); Latchford's notes on *Elliptio dilatatus* (Raf.), **La Rocque, A.** (5); *Tropicorbis* exposed to *Schistosoma miracidia* in S. Florida, **Leigh, W. H.**; *Dreissena polymorpha* in the Stalingrad reservoir, **Ljakhov, S. M.**; Palaeochemical study of marine Miocene Mollusca of the Iberian peninsula, **Lopes de Ascon, J. M. & M. 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N.**; Fauna of the Östernsjönn Lake, Norway, **Ökland, J.**; *Patella depressa* summer breeder in Cornwall, **Orton & Southward**; Distribution and lists of Mollusca from the Ionian Sea, **Parentan, P.** (2); Population density and characteristic species in biocoenoses of the Black Sea part of the Taman peninsula slope, **Petrov, K. M.**; Octopus, squid and cuttlefish, **Pfeiffer, W.**; Paralyzing venom and hole drilling in *Octopus*, **Pilson & Taylor**; Relationships of Pismo clams to water temperatures 1957-1959, **Radovich, J.**; Southern *Todaropsis eblanae* found in Scottish waters, **Rae, B. B.**; Biology of *Pinctada*, **Ranson, G.**; *Cyrtora* in New Zealand, **Rees, R.**; Monitoring polluted marine waters, **Reish, D. J.**; *Mytilus galloprovincialis* in the brackish water lake Fusaro, **Renzoni & Sacchi**; Of the genus *Pygulifera*, **Rey, R.**; Factors in the distribution of fossil cephalopod shells, **Reyment, R. A.** (2); Terebratulidae from the Sunda Islands and New Guinea, **Roch, G. F.**; Ecologically significant variations in elemental concentrations in *Crassostrea* shells, **Rucker & Valentine** (2); *Littorina obtusata* at Roscoff, **Sacchi, C. F.** (2); Pulmonate ecology of the Isle of Lipari, **Sacchi, C. F.** (3); Ecology of the gastropods of the Venice Lagoon, **Sacchi, C. F.** (6); Ecological significance of nitrogen shell content in *Euparypha pisana*, **Sacchi & Gaudiosi**; Function and ecological significance of the substratum in inducing metamorphosis in *Nassarius obsoletus* and *N. vibex*, **Schelltema, R. S.**; Beach Mollusca of the Bay of Plenty, East Cape Area, **Seager, L.**; Interesting facts about *Achatina marginata*, **Seidl, F.**; Effect of electrical currents on *Dreissena polymorpha* colonies, **Shentjakov, V. A.**; Vertical distribution of Japanese oysters with special reference to interspecific relations, **Shinkawa, H.** (1); Habitat of *Crassostrea* and gill ciliary activity, **Shinkawa, H.** (2); Ecological notes on *Vasum*, **Shuster & Bode**; Four species of chitons from the Panamic Province, **Smith, A. G.** (5); Mollusca of Stewart Island, **Smith, E.**; Insular endemism among New Caledonian land snails, definite dispersal waves suggested by overall Pacific Islands distribution, **Solem, A.** (1); Ecological interpretation of Quaternary non-marine Mollusca, **Sparks, B. W.**; Habitats of gastropods around Dar es Salaam, **Spry, J. F.**; Ecological study of *Pseudamnicola reatina* n.sp. in Italy, **Stella, E.**; Amino acid uptake in marine Mollusca, **Stephens & Schinske**; Underground aquatic molluscs from Holland, **Stock, J. H.**; Shell life on the seashore, **Street, P.**; Of *Choromytilus chorus* in Chilean waters, **Stuardo, J.** (2); Of freshwater molluscs in Chile, **Stuardo, J.** (3); Where to find shell-bearing land snails, study on collecting in Ohio, **Taft, C.**; Abundance of the pearl oyster in the Arafura Sea, **Takemura & Sagara**; *Helicodonta obsoleta* found in the Lac Grotto at Comblain-au-Pont (Liège), **Tercata, R. R.** (2); Cultivation of *Mya arenaria*, **Turner, H. J.** (1); Problems in development of *Mya arenaria* farms, **Turner, H. J.** (2); Incidence of Mollusca in Malayan limestone hills, **Tweedie, M. W. F.**; Contribution towards a planktonic atlas of the N.E. Atlantic and North Sea, **Vane, F. R.**; General ecology of *Crassostrea cucullata* on the Kenya coast, **Van Someren & Whitehead**; Land Mollusca from Waitomo Caves New Zealand, **Warren, P.** (1); Fauna of oyster beds with special reference to the salinity factor, **Wells, H. W.**; Study of the biology, ecology and geographical distribution of *Boetgerilla*, **Wiktor, A.**; Growth, reproduction and distribution of *Calyptraea chinensis*, **Wyatt, H. V.** (1); Orientation and mode of life of *Hyolithes* in the Cambrian, **Yochelson, E. L.** (1); Surface pelagic biocoenosis of the Black Sea, **Zaitzev, Y. P.**
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Habitat.—Benthic invertebrates of the San Joaquin River, Aldrich, F. A.; Ecology of polluted inland waters in the Transvaal, Allanson & Gieskes; Mollusca of sunny bluffs in N. Sweden, Andersson, J. S.; Requirements of *Australorbis glabratus* in Brazil, Andrade & Freitas; Comparison of vector molluscs of Mozambique with the types of breeding places, considered from the physical, chemical and biological point of view, Azevedo, Medeiros, Faro et al.; Mollusca of Tennessee caves, Barr, T. C.; Ecological characteristics of the molluscan fauna of a grassland situation in East Central Kansas, Basch, Bainer & Wilhm; Zonation of molluscs in Ghana, Bassindale, E.; Mollusca found inhabiting *Petroglossus nicaeensis*, Bellan-Santini, D. (1); Effect of shore level on brood pouch contents of *Littorina saxatilis*, Berry, A. J. (1); Littoral interstitial species from Anglesey representing a family new to Britain, Boaden, P. J. S.; Epiphragm production and habitat conditions of Helicidae from Provence, Bonavita, D.; Land snails of the Danish seashore, Bondesen, P.; Resistance to desiccation and other tolerance studies on *Bullia digitalis* and *B. laevissima*, Brown, A. C.; Of land snails and slugs and freshwater snails, Burch, J. E. (3); Of *Polamopyrgus jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); Of *Tellina tenuis* and *Macoma balthica*, [Clay, E.] (3); Sorting of shells by tidal action in S. Australia, Cotton, B. C. (1); Settling of freshwater molluscs in relation to chemical content of water in Ural Lakes, Dulkan, A. L.; Habitat and alimentary

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Effects of Temperature.—On the rate of growth of larval *Venus striatula*, **Ansell, A. D.** (1); Colour as a thermal factor in animals, **Bondi, C.**; On *Brachydontes minimus*, **Bouchet, J. M.**; Hyperthermia as a factor in cytological fixation of oyster mantle, **Combs, R. M.**; *Littorina neritoides* resistance to high temperatures, **Fraenkel, G.**; On naturalization of *Mercenaria mercenaria* in Europe, **Heppell, D.** (2); On the locomotion of slugs, **Karlin, E. J.** (3); Importance of pressure and temperature on penetration of marine invertebrates into the deep sea, **Menzies & Wilson**; On *Australorbis glabratus* growth and repro-

duction in the laboratory, **Michelson, E. H.** (3); Correlation between temperature, salinity and growth of *Teredo furcillatus*, **Nagabhushanam, R.** (3); Rate of water pumping of *Modiolus demissus* in relation to temperature, **Nagabhushanam, R.** (5); Relationship between body colour and temperature in Gastropoda, **Reichmuth & Frömming**; Acclimation in molluscs, **Segal, E.**; Oxygen consumption of *Dreissena polymorpha* at different temperatures, **Wojnarovich, E.**; Effect of increased temperature on Black Sea mussels and on their ciliated epithelium, **Zhirmunskii, A. V.**; Heat sensitivity in *Mytilus* from the Sea of Japan and Sea of Okhotsk, **Zhirmunskii & Pisareva**.

Movements and Locomotion.—Nervous control of the mantle, funnel and collar during swimming of *Sepia*, **Boycott, B. B.**; Orientated movements of marine Mollusca, **Brafield, A. E.**; *Macoma balthica* extensive movements not restricted to the vertical plane as previously supposed, **Brafield & Newell**; Orientational movements of the foot of *Littorina* species, **Charles, G. H.** (3); Locomotion (swimming) in cephalopods, **Chilapaty, P.**; Velocity of marine gastropods, **Coomans, H. E.** (2); Buoyancy of the cuttlefish, **Denton & Gilpin-Brown** (1); Mass movement, with no apparent explanation, of *Ilyanassa* in Cape Ann, Massachusetts, **Dexter, R. W.** (4); Gastropod locomotion and factors controlling it, **Elves, M. W.**; Tidal rhythms of motion and locomotion in Mollusca, **Fingerman, M.**; Migration of Mollusca into the former Zuiderzee area from the IJsselmeer, **Jutting, W. S. v. B.** (1); Effects of light on locomotion of slugs, **Karlin, E. J.** (3); Locomotion of *Terebra* using its foot as a "sail," **Kornicker, L. S.**; Movements of Mediterranean cephalopods, **Mangold-Wirz, K.**; Muscular and ciliary locomotion in *Tricolia affinis cruenta*, **Marcus, Ev. & Er.** (3); Swimming behaviour of *Solariella nektonica* n.sp., **Okutani, T.** (1); Migration of marked *Australorbis glabratus* in Puerto Rico, **Radke & Ritchie**; Mobility of gastropods of Dar es Salaam, **Spry, J. F.**

Boring and Burrowing Habits.—*Natica* boring *Scyllorhinus* egg capsules, **Ansell, A. D.** (4); Of *Bankia* (*Bankiella*) *minima*, **Bade, Masurekar & Bai**; Burrowing activity of *Bullia digitalis* and *B. laevissima*, **Brown, A. C.**; Boring mechanisms in gastropods, **Carriker, M. E.** (1); Habits of *Tellina tenuis* and *Macoma balthica* compared, **[Clay, E.]** (3); Ecology of marine wood borers, **Deschamps, P.**; *Xylophaga* in the Bay of Bengal, **Ganapati & Lakshmana Rao**; Slow burrowing of *Scrobicularia* adults in gravels and clay, **Guérin, M.**; Boring behaviour and mechanism of *Tectonatica janthostomoides*, **Hamada, S.**; Observations on burrowing under water of *Tellina* spp. and *Arcopagia*, **Holme, N. A.** (2); X-ray photograph of wood bored by *Teredo*, **Lane, C. E.**; Molluscan borers in Kagoshima Prefecture, Japan, **Mawatari, Kitamura & Inaba**; *Martesia*, *Teredo* and *Bankia* require water current velocity for settling on timber, **Nagabhushanam, R.** (4); *Teredo* initial settling in the Azov Sea, **Ryabchikov, Soldatova & Esakova**; Boring of *Teredo navalis* in the Kiel Canal, **Schüts, L.**; *Martesia*, histology of mantle and study on ciliary currents related to boring, **Srinivasan, V. V.** (2); Bivalves that bore into wood and rock, **Street, P.**

Breeding habits and breeding.—Egg-laying habits of *Conus*, **Anon.** (25) & (27); Life history and breeding behaviour of *Rumina decollata*, **Batts, J. H.**; Observations on egg-laying in *Conus*, **Clover, P. W.** (1); Annual breeding cycles of molluscs from the West Coast of America, **Giess, A. C.**; Ecology of reproduction in the genus *Neptunea*, **Golikov, A. N.**; *Ommastrephes sloani pacificus* copulation, **Hamabe, M.** (1); Breeding habits

and spawning behaviour of *Ommastrephes sloani pacificus*, Hamabe, M. (2); Sexual behaviour of *Eupleura* and *Urosalpinx*, figs., Hargis & MacKenzie; Life cycles of four freshwater snails in Loch Lomond, Hunter, W. R. (2); *Haliotis* spawning in the vicinity of Ibaragi Prefecture, Ino & Harada; Egg-laying and general conditions necessary in the laboratory for *Succinea putris*, Jura, C.; Courtship, mating and egg-laying behaviour in the Limacidae, Karlin & Bacon; Studies on spawning behaviour, egg masses and larval development of *Conus*, Kohn, A. J. (2); Breeding of *Cantharidus callicroa jessoensis*, Kojima, Y.; Egg-laying in *Amphidromus*, Laidlaw & Solem; *Teredo* life cycle, pictorially illustrated, Lane, C. E.; Life cycle and seasonal distribution of *Lymnaea humilis* from Michigan, McCraw, B. M.; Effects of lunar and tidal rhythms on spawning and on pelagic larvae density, Mileikovsky, S. A.; Breeding habits of *Valvata piscinalis alpestris* Küster, figs., Oberstler, E.; Breeding behaviour of *Patella depressa* and *P. vulgata*, Orton & Southward; Sucker display by male *Ocotopus* during courtship behaviour, Packard, A.; Spawning behaviour and early development of *Eolidina marnarensis*, Rao & Alagarwami; Life history of *Onchidoris muricata* in the Menai Straits, Thompson, T. E. (4); Spawning biology of *Crassostrea cucullata*, Van Someren & Whitehead; Brooding of eggs by female *Ocotopus vulgaris*, Ververs, H. G.; Breeding of *Bulinus truncatus* in total darkness, Watson & Al-Ali; Life history of *Calyptrea chinensis* studied at Plymouth, Wyatt, H. V. (1); Spawning of *Lunatia nitida*, Ziegelmeier, E. (3).

Duration of Life.—Use of ^{45}Ca in study of longevity of *Australorbis*, Azevedo, Barreira, Gil & Gomes; *Lymnaea humilis* lives to 9 months and a size of 9–10 mm. long in the Ann Arbor region of Michigan, McCraw, B. M.; *Eupleura caudata* estimation of age by shell characters, MacKenzie, C. L. (2); Age at onset of egg laying, egg production and life span of *Australorbis glabratus*, Ritchie, Berrios-Duran, Dewesse & Rosa-Amador.

Size.—Height to weight ratio and frequency distribution of weight classes in a *Modiolus* population, Kuensler, E. J. (1); Body weight of *Arion ater rufus* compared with volume of $\bar{\gamma}$ and albumen glands at different ages, Lúsis, O.; Dimensions of the body in relation to maximum nerve lengths, (*Archachatina*), Nisbet, R. H. (1); Influence of sex and size on blood composition in *Lamellidens marginalis*, Padmanabhanaidu & Ramamurthy; Size of cowries, a statistical study, Schilder, F. A. (4); *Teredo navalis* size and O₂ consumption, Soldatova, I. N. (1); Shell size and growth of *Calyptrea chinensis*, Wyatt, H. V. (1).

Population.—Density and vitality of *Australorbis glabratus* in Brazil, Andrade & Freitas; Zooplankton, eastern north Pacific, Beklemishev, C. V.; Molluscan populations in the rocky infralittoral at Bonifacio, Corsica, (Bellan) Santini, D. (2); Variations in the radula of *Lymnaea peregra* seen within NW European populations, Berrie, A. D.; Population distribution of *Littorina saxatilis* on Whitstable shore, Berry, A. J. (1); Effect of introduced molluscs on natural communities of animals and plants, Burch, J. B. (3); Benthic populations off Roscoff, Cabioc, L.; Population densities for *Macoma balthica* and *Tellina tenuis*, (Clay, E.) (3); Populations of giant Helicidae from the mountains of Majorca, Colom, G. (2); Changes in gastropod populations in the Big Vermilion river, Illinois, 1918–1959, Dexter, R. W. (5); *Donax variabilis* on a Florida beach, Edgren, R. A.; Maintenance of wrinkle populations in a particular zone,

Evans, F.; *Mytilus galloprovincialis* population in Venice Lagoon, Génovèse, S.; Effect of various control methods on *Oncomelania* populations, Hairston & Santos; Population study of *Buccinum* at Whitstable, Hancock, D. A.; Adult populations and animal size study of *Melongenacornu* in Florida, Hathaway & Woodburn; Annual variations in natural populations of freshwater snails in the west of Scotland, Hunter, W. R. (1); Four limited snail populations in Loch Lomond, Hunter, W. R. (2); Of molluscs from the former Zuiderzee, Jutting, W. S. S. v. B. (1); Frequency distribution of weight classes, population density and distribution of *Modiolus* in Georgia, Kuensler, E. J. (1); Population density of soil-dwelling molluscs, table p. 233, Kühnelt, W.; Polymorphism of natural populations of *Cepaea nemoralis*, Lamotte, M.; Molluscan populations in Pleistocene lake deposits and climatic conditions, La Rocque, A. (1); Unusual mussel populations of the British Isles, Lewis & Powell; Comparison of an ancient and a recent unionid population from Illinois, Matteson, M. R. (2); Comparative study of unionid populations of the Lower Rock River, Matteson, M. R. (3); *Achatina fulica* on Mt. Tantalus and Roundtop in Oahu Hawaii, Mead, A. R. (1); Growth and reproduction in laboratory populations of *Australorbis glabratus*, under various temperatures, Nicholson, E. H. (3); Planktonic larvae of littoral and sublittoral molluscs, Mileikovsky, S. A.; Unionid population of Potter Lake, Kansas University campus, Murray, H. D. (1); Egg-laying of random populations of *Bulinus truncatus*, Najarian, H. H.; Biometrics of *Venus gallina* populations, Porta, J. de; *Mesodema mactroides* in Argentina, Rapoport, E. H.; Radioisotope present in a population of *Unio* in Lake Maggiore, Ravera & Vido; Calculations of *Cepaea hortensis* population size, Robinson, J. V. B.; Phenotypic analysis of a *Euparypha* population, Sacchi & Gaudioni; Moisture requirements of *Pomatopsis* individuals at different sizes and ages, Schalle & Getz; Effect of water velocity on *Australorbis* populations in N. Venezuela, Socorra, Silva, Gonzalez & Machado; *Macoma balthica* in Finnish coastal waters 1922–1959, Segerstråle, S. G.; Effect of electrical current on *Dreissena polymorpha* colonies, Shentjakov, V. A.; Populations of *Liguus* in the Everglades, Florida, Solem, A. (3); Molluscan census, Solem, A. (6); Frequency of selected species in the last Interglacial deposit at Bobbitahole, Ipswich, Sparks, B. W.; Snails occurring in large concentrations in small areas, Vervoort, W.; Survey of land snails to determine the intermediate host of *Lyperosomum monentorum*, Villella, J. B.; Quantitative and qualitative study of Indo-west-Pacific plankton, Wickstead, J. H.

Feeding habits and alimentation.—Egg capsules of dogfish bored by *Natica*, Ansell, A. D. (4); Measurements of filter feeding using radioactive algae, study on *Mya arenaria*, Blake, J. W.; *Sepia* food seizure produced by electrical stimulation, Boycott, B. B.; Experiments on feeding habits of *Bullia digitalis* and *B. laevisima*, Brown, A. C.; Snails and limpets as food of trout and young salmon, Brown, M. E.; *Pelamis platurus* an unusual food item for *Ocotopus* at Port Elizabeth, Bruggen, A. C. v. (2); *Ocenebra japonica*, figs., Chew, K. K.; Food and predators of *Potamopyrgus jenkinsi*, *Hydrobia ulvae* and *H. ventrosa*, (Clay, E.) (1); Food and predators of *Littorina littorea*, *L. littoralis*, *L. saxatilis* and *L. neritoides*, (Clay, E.) (2); *Tellina* and *Macoma*, deposit feeders, (Clay, E.) (3); Newly hatched young of *Ammicola* feed immediately after emergence using the radula in the same way as in the hatching process, Davis, C. C.; Mass culture of phytoplankton as food for lamellibranch larvae, Davis & Ukeles; *Australorbis glabratus* maintained on algal food, Erickson & Caldwell; Biology

of *Australorbis glabratus* fed algal food, Erickson, Ritchie & Caldwell; Retention of floating material and organic particles by the mussel, Fraga Rodriguez & Vives Galmés; Feeding of *Hermatina smithi*, figs., Gonor, J. J.; Habits of *Melongenella corona* Florida, Hathaway & Woodburn; Necessity of wood in *Teredo* diet? Can *Teredo* exist on plankton alone?, Hurley, D. E.; Food chain relationships between vegetation and land snails in Montana, Karlin, E. J. (2); Colour of shell due to food in the case of *Haliotis rufescens* Sw., Leighton, D. L.; *Placiphorella velata*, McLean, J. H. (3); Seaweed, hydroid and polyzoan nudibranch feeders, Isle of Man, Miller, M. C.; *Carinaria* larvae feeding habit, Sagami Bay, Okutani, T. (2); Shelled molluscs as food of *Octopus*, Pilson & Taylor; Feeding of *Strombus* and related herbivores, Robertson, E. (4); Epitoniidae and Janthinidae feeding on coelenterates, Robertson, E. (6); *Aplysia juliana* and *A. kurodai* feeding on *Undaria* in Japan, Saitō & Nakamura; Food and feeding of *Conus californicus* Hinds, figs., Saunders & Wolfson (1); Feeding habits of *Conus californianus*, Saunders & Wolfson (2); Diet of gastropods near Dar es Salaam, Spry, J. F.; Function of the labial palps of *Acila castrensis*, Stasek, C. R.; Carnivorous snails on the seashore, Street, P.; Ciliary currents in *Anadara trapezia*, Sullivan, G. E.; Cave dwelling and ground living *Oxychilus cellarius*, differences in diet, Tercefs, R. R. (1); Different feeding habits of cavernicolous and non-cavernicolous *Oxychilus cellarius*, Tercefs & Jeuniaux; Filtration method of feeding in *Bithynia* and *Valvata*, Tsikhon-Lukanina, E. A. (1); Dependence of feeding rate and filtration on food concentration, Tsikhon-Lukanina, E. A. (2); Colouration in snail shells caused by diet, Voss, G. L.; Feeding habits of *Odostomia* (*C.*) *dianthophila*, Wells, H. W. & M. J.

Parasitism, Commensalism and Parasites.—Bilharziasis prevalence and vector molluscs of Mozambique, Azevedo, Medeiros, Faro et al.; Infection of *Planorbis metidjensis* with *Schistosoma mansoni*, Barbosa, Carneiro & Barbosa (1); *Haplosporidium* parasite of *Lymnaea*, Physa and *Heliosoma* in Michigan, Barrow, Jr., J. H.; Unionid parasites of fish in Lake Ladoga, Barysheva & Bauer; Note on vector snails of bilharzia, Beauchamp, R. S. A.; Effects of trematode infection on a population of *Littorina saxatilis*, Berry, A. J. (1); Parasitic and non parasitic glochidia of *Diplodon*, Bonetto, A. A. (1); Identity of the Australian lymnaeid host of *Fasciola hepatica*, Boray & McMichael; *Mytilus platensis* parasitized by a trematode *Bucephalus*, Castellanos, Z. J. A. de (4); Control of snail hosts of bilharziasis and fascioliasis, Clarke, Shiff & Blair; Parasites and commensals of *Hydrobia ulvae* and *H. ventrosa*, [Clay, E.] (1); Small eulamellibranch commensal with *Polydora* at Morgat, Deroux, G.; Molluscan vectors of bilharziasis in warm and tropical countries, Deschiens, R.; Parasites of molluscs listed, Dollfus, R. P.; Quantity and infectivity of *Schistosoma mansoni* cercariae emerging from *Australorbis*, Erickson & Caldwell; New intermediate host of schistosome trematodes in New South Wales, Ewers, W. H.; *Lymnaea cailliaudi* intermediate host of *Fasciola gigantica* in Egypt, Essat, M. A. E.; Parasitic larval stage of *Mutela bourguignati* on *Barbus*, Fryer, G.; Attempt to infect molluscs with *Acanthamoeba*, Getz, L. L.; Bayer 73, a new molluscicide, Gillet, Bruaux, Nansen & Lukali; Dependence of a parasitic fauna on the hibernation of the host mollusc, Ginetinskaya & Stein; Efficacy of Bayer 73 against intermediate hosts of *Schistosoma mansoni*, S. haematobium, S. japonicum and *Fasciola*, Gönner, R.; *Bulinus guernei* host to bilharziasis in Senegal, Gretillat, S. (1); Destruction of molluscan intermediate hosts of parasitic trematodes,

Gretillat, S. (3); Ecological control of the snail host of *Schistosoma japonicum*, Hairston & Santos; New cercariae found to infest *Hydrobia*, Honer, M. R. (1); Parasites of *Hydrobia ulvae*, Honer, M. R. (2); Examination of parasites of land snails whilst the hosts are living, Kasubski, S. L.; *Oncomelania hupensis* and *O. nosophora* vector snails of *Schistosoma japonicum*, Komiya & Kojima; Exposure of *Tropicorbis* to miracidia of *Schistosoma mansoni* in S. Florida, Leigh, W. H.; Molluscan vectors of bilharziasis in N. Rhodesia, McCullough & Friis-Hansen; Molluscan vectors of bilharzia in Tanganyika, Maclean, Webb & Msangi; Potential of freshwater snails in Somalia to act as vectors of schistosomiasis, Maffi, M.; *Cyclostoma elegans* contains living *Pseudomonas fluorescens* in its nephridium, Mahdihassan, S.; Natural and experimental infections of snails with *Schistosoma bovis*, Malek, E. A.; Primary enquiry into bilharziasis in Mauritania, Marill, F.-G.; Vectors of bilharzia increasing rapidly, control measures suggested, Muller, R. (1) & (2); Biology of *Bulinus truncatus* intermediate host of urinary bilharziasis in Iraq, Najarian, H. H.; Attempt to infect Iraqi snails with Egyptian *Schistosoma*, Najim & Al-Saad; Snail hosts of bilharziasis in West Africa, Odeh, M. A. (1) & (2); Hosts of bilharziasis in Liberia and Portuguese Guinea, Odeh, M. A. (3); Parasitism among Ionian Sea molluscs, Parenzan, P. (2); *Oncomelania quadrasi* spreading *Schistosoma japonicum* in the Philippines, Pesigan & Hairston; Intermediate hosts of *Schistosoma mansoni* and *S. haematobium* in the Sudan, Rahman & Sharaf Ed Din; *Saptadanta nasika* epizoic on *Pterocera lambia*, Rao, K. V.; Role of *Hydrobia ventrosa* in the life cycle of trematodes of the Camargue, Rébecq, J.; Review of Pyramidellid hosts and notes on an *Odostomia*, Robertson & Orr; A new Polyclad commensal on *Nerita*, Smith, E. H. (2); *Pomatopsis lapidaria* host of the American lung fluke, found in Louisiana, Sogandares-Bernal & Abdel-Malek; Schistosome miracidial behaviour in the presence of normal and abnormal snail hosts, Suds Jr., R. H.; New Gastropoda endoparasite in holothurians, Tikasingh, E. S.; Infection of *Australorbis glabratus* with *Bacillus pinotii* not lethal, Tripp, M. R. (1); Host responses elicited by injection of foreign materials into *Australorbis glabratus*, Tripp, M. R. (2); *Vallonia pulchella* experimental snail host of *Lyperosomum monenteron*, Villella, J. B.; Fish lures developed by glochidia-producing lamellibranchs, Welsh, J. H. (2); *Nipporomontacuta actinariophila* commensal with a sea anemone in Honshu, Yamamoto & Habe.

Disease, Injuries and Effect of Toxins.—In vitro phagocytosis of marine bacteria by oyster leucocytes, Bang, F. B.; Protozoan infection of land snails, Burch, J. B. (2); Disease-depleted oyster populations off E. Canada, Logie, Drinnan & Henderson; Shell repair after injury in *Marisa rotula*, Mallory & Crown; Pharmacological study of poison gland extracts of *Cymbium patulum*, Marche Marchad, Giono, Maser et al.; Diseases of oysters, enemies, competitors and their control, Medcof, J. C.; Toxin extracted from *Aplysia* and its effect on various animals, Winkler, L. R.

Behaviour.—Reaction to injury in *Crassostrea*, Bang, F. B.; Magnetic and photic responses in snails, Barnwell & Brown; Experimental study of mud snail responses to magnetic fields, Barnwell & Webb; *Littorina saxatilis* activity on the shore, behaviour and feeding, Berry, A. J. (1); Orientated movements of marine Mollusca, Brafield, A. E.; Behaviour of *Macoma balthica* which brings the animal into contact with surrounding areas while maintaining its station on the shore, Brafield & Newell; Organismic orientation of *Nassarius* relative to magnetic

axes, Brown & Barnwell; Of early stages of *Mercenaria*, Carriker, M. R. (2); Orientation of *Littorina* sp. to polarized light, Charles, G. H. (1) & (2); Orientation of movements of the foot of *Littorina* species, Charles, G. H. (3); Effect of light on the behaviour of well fed cuttlefish, Denton & Gilpin-Brown (2); Orientation of wood boring Mollusca in tunnels, Deschamps, P.; Compensatory reflexes of *Octopus vulgaris*, blinded and intact animals studied on a horizontal turntable, Dijkstra, S.; Behaviour patterns exhibited by disturbed *Littorina punctata*, Evans, F.; Tidal rhythmicity of marine organisms, Fingerman, M.; Behaviour of *Ommastrephes sloani pacificus*, Hamabe, M. (2); Chemoreception in gastropods, Kohn, A. J. (3); Of *Terebra saleana* in the Gulf of Mexico, Kornicker, L. S.; Geotactic behaviour of *Physa*, McClary, A.; Influence of the chemical composition of seawater on *Martesia striata*, Nagabhushanam, R. (2); Of adult populations of *Hydrobia ulvae*, Newell, R.; Habits and observations on living *Solemya parkinsoni*, Owen, G.; Hole drilling by *Octopus*, studied mainly with reference to abalones, Pilson & Taylor; Retinal orientation and discrimination of polarized light by *Octopus*, Rowell & Wells; Selection of a favourable substratum by *Nassarius obsoletus*, a deposit feeder, of considerable adaptive value, Scheltema, R. S.; *Acila* as an inhalant deposit feeder, Stasek, C. R.; Behaviour patterns of *Cellana radiata*, Sukumaran & Krishnaswamy; Of *Oxychilus cellarius* dependent on habitat, Terebais, R. R. (1); Ancestry carried by a dytiscid (Coleoptera), Théodorides, J.; Courtship and egg laying in *Octopus vulgaris*, Ververs, H. G.; Organismic responses of snails to differences in weak horizontal electrostatic fields, Webb, Brown & Schroeder; *Octopus vulgaris* behavioural studies, Wells, M. J. (2); Tactile and visual learning by *Octopus*, Wells, M. J. (3); Memory of octopuses with and without vertical lobes, Young, J. Z. (1).

Enemies, Defence and Protection.—Mortality of *Venus striatula* in Kames Bay due to predators, Ansell, A. D. (2); Predation of *Pecten* by starfish, Baird, R. H.; Glochidia of *Callonia* and *Pazyxodon* in S. America, Bonetto, A. A. (2); Predators of *Macoma balthica* and *Tellina tenuis*, Clay, E. J. (3); Molluscan predators on the coast of Normandy, Fischer, P.-H. (4); Mass mortality of a marine fauna following tropical rains, Goodbody, I.; *Tapes japonica* attacked and bored through by *Tectonatica janthostomoides*, Hamada, S.; Chemoreception in gastropods, Kohn, A. J. (3); Natural selection of *Cepaea nemoralis* by predators, Lamotte, M.; Predators and associates of *Eupleura caudata* embryo cases, MacKenzie, C. L. (2); *Cepaea nemoralis* eaten by *Turdus pilaris*, Matske, M. (1); Mollusca in the stomach of *Lophius* the angler-fish, Mikogami & Arakawa; Larval molluscs preyed on by other larvae, Mileikovskii, S. A.; Mollusca found in the stomach contents of *Symbbranchus marmoratus*, Olazarrí, J.; Colour of octopus, squid and cuttlefish, at rest and when alarmed by enemies, Pfeiffer, W.; *Octopus bimaculoides* and *O. bimaculatus* drilling holes in shells of molluscan prey, Pilson & Taylor; Effects of flatworms on oyster spat in Massachusetts, Provenzano, A. J.; Predation selection by gulls of bright colour forms of *Littorina obtusata*, Sacchi, C. F. (2); Selective predation of *Cepaea nemoralis* in Cambridgeshire, Sacchi, C. F. (4); Acid secretion as a defensive adaptation of gastropods, Thompson, T. E. (2); Observations on the cause of mortality of *Ostrea edulis* at Tal-y-foel, Walne, P. R. (2).

Harmful to Man.—Fatal accident of cone 'bite', Anon. (2); Toxicity of hypobranchial gland extract of *Murex trunculus*, Jullien, Cardot, Joly & Verneaux (1); Poisonous bite by *Octopus Hapalochlaena maculosa*, McMichael, D. F. (2).

Technique.—Histochemical techniques used in the study of the hepatopancreas in *Helix pomatia*, Abolins-Krogis, A.; New methods for collecting molluscs, Agócsy, P.; Of mussel cultivation in Spain, Andreu [Morera], B. (2); Obtaining, dissociating and culturing cells and organs of *Loligo pealii*, Arnold, J. M. (1); Collecting technique for freshwater molluscs in Mozambique, Azevedo, Medeiros, Faro et al.; Microcinematography of meiosis in *Cepaea*, Bajer, Hansen-Melander, Melander & Molé-Bajer; Suitable chemicals for use as molluscicides, Barbosa, F. S.; Basic lighting of specimens for photographic purposes, figs., Blaker, A. A. (1); Colour photography of living marine species, Blaker, A. A. (2); Dissection of *Loligo vulgaris*, figs., Breede & Papyn; Comparative effects of molluscicides, Bruaux & Gillet; Paper chromatography in systematic research, Burch, J. B. (1); Using land shells as a critical factor in the dating of post-Pleistocene deposits, Burchell, J. P. T. (1) & (2); Laboratory culture of young *Mercenaria*, Carriker, M. R. (2); Chromatography of *Nassarius nitida* from Essex and *N. reticulatus* from Plymouth, Collyer, D. M.; Shells and underwater photography, Cross, E. R.; Mass culture of phytoplankton as foods for metazoans, Davis & Ukeles; Molluscicides specific to the spread of bilharziasis, Deschiens, Ayad & Le Corroller; Collection, preservation and display of marine Mollusca, Eales, N. B.; X-radiography of shells, Engel, D. W.; Methods of fishing for cephalopods in the Mediterranean, Ghirardelli, E.; Techniques and sources of error when studying particle transport by gill cilia, Gosselin & O'Hara; Techniques used in studying the submicroscopic structure of molluscan shells, Grégoire, C.; How to mount a radula, Griffiths, R. J. (2); A device for sorting minute shells in sand samples, fig., Herah, G. L.; Removal of encrusting algae from snail shells, Horst, D. v. d.; Culture of soil animals and collecting techniques, Kähnelt, W.; Use of interglacial and Plio-Pleistocene marine Mollusca in checking mammalian chronologies, Kúrtén, B.; Hydraulic escalator shellfish harvester, MacPhail, J. S.; Isolation of bacteria from molluscs, Mahdihassan, S.; Methods for extracting vitamin B₁₂ from molluscs, Miyake & Hayashi; Keeping cephalopods alive for economic purposes, Morales [Seguí], E. (2); Reconstruction of fossil pelecypod shells, Nalivkin, B. V.; Measurement of cytochrome respiratory pigments in molluscs, Pablo & Tappel; Staining techniques, Peters, W.; Use of non-residual molluscicides in the Transvaal, Pitchford, R. J.; Preservation and storing of specimens, Powell, A. W. E.; Application of freeze-substitution to studies of oocytes, Rebhun, L. I. (1); Use of a sediment bottle collector for monitoring polluted marine waters, Reish, D. J.; Purification of the edible oyster, Satoh, T.; Dissection of slug reproductive organs, Schouten, A. R.; Narcotizing and fixing opisthobranchs, Smith, E. H. (1); Method for glycogen content determination in *Martesia fragilis*, Srinivasan & Krishnaswamy; Practical hints for collecting, preserving and photographing shell life, Street, P.; Colorimetric determination of the molluscicide Bayer 73, Strufe, R.; Fouling and antifouling techniques, Stubbings, H. G.; Collecting land snails in Ohio, Taft, C.; Colorimetric study equipment for chemical molluscicides, Tahvi, M.; Method of collecting Mollusca on limestone hills in Malaya, Tweedie, M. W. F.; Method for isolation of nudibranch radula teeth and mandibles, Vannucci, M.; Application of UV light to shellfish cleansing procedures, Wood, P. C.; New method for evaluation of running water purity based on the benthos, Zelinka & Marvan.

Biological and Chemical Control.—Molluscicide effect of Bayer 73 incorporated into soap, Azevedo & Pequeto; Experimental control of *Dreissena polymorpha* by ultra-

sounds, Breitig, G.; Chemical, physical, cultural and biological control of unwanted introduced molluscs, Burch, J. B. (3); Of snail hosts of bilharziasis and fascioliasis in Southern Rhodesia, Clarke, Shiff & Blair; Effect of pesticides on eggs and larvae of *Crassostrea* and *Venus*, Davis, H. C.; Efficient molluscicide technique against molluscan vectors of bilharziasis in warm and tropical countries, Deschiens, R.; Molluscicide for the control of bilharzia, Deschiens, Le Corroller, Pastac, I. & S.; Control of *Galba truncata*, Enigk & Düwal; Tests on the new molluscicides Bayer 73 and ICI 24223, Gillet & Bruaux; Laboratory and field trials of the molluscicide Bayer 73, Gönner, R.; Molluscicidal effects of sodium pentachlorophenol and Bayluscid, Gönner & Strufe; Vectors of bilharziasis in E. Senegal, Gretillat, S. (1); Of *Biomphalaria*, *Bulinus* and *Lymnaea* by zinc dimethyl-dithiocarbamate in Senegal, Gretillat, S. (2); Of molluscan intermediate hosts of parasitic trematodes of man, Gretillat, S. (3); Field evaluation of molluscicides, Hairston, N. G.; Ecological control of *Oncomelania quadrasi* in the Philippines, Hairston & Santos; Of *Oncomelania nosophora* in Japan, Komiya, Y.; Resistance of *Oncomelania* to molluscicides in Japan, Komiya, Yasuroaka & Hosaka; Innocuity of Ba salts used as molluscicides, against freshwater fauna other than molluscs, Le Corroller & Deschiens; Of *Schistosoma haematobium* and *S. mansoni* in Tanganyika, a survey of molluscan vectors, Maclean, Webb & Msangi; Increasing complexity in the problem of *Achatina fulica* on Hawaii, Mead, A. R. (1); Of snail vectors of schistosomiasis by acid-fast pathogens, Michelson, E. H. (2); Molluscicide trials on *Bulinus truncatus* in Iraq, Najarian, H. H.; Of bilharziasis-carrying snail genera in Iraq, Najarian, Araoz, Klimt, Ani & Azzawi; Effect of metaldehyde against *Limax flavus*, Ōgushi, K.; Effect of snail control on *Schistosoma japonicum* prevalence in the Philippines, Pesigan & Hairston; Of *Achatina fulica* by *Gonaxia kibweziensis* and *Lamprophorus tenebrosus*, Peterson, Jr. G. D.; Non-residual molluscicides for bilharziasis control in the Transvaal, Pritchard, R. J.; *Marisa cornuarietis* demonstrated control of *Australorbis glabratus*, Radke, Ritchie & Ferguson; Trials with Bayer 73 in Southern Rhodesia, Shiff, C. J.; Trials of Bayer 73 in Tanganyika, Webb, G.; Evaluation of molluscicides against *Oncomelania*, Williams & Ritchie.

Effect of light and luminescence.—Oyster purification using UV light, Wood, P. C.

Desiccation.—Respiration of desiccating *Coretus* and *Lymnaea*, Klekowski, R. Z. (1); Survival of *Planorbis* during desiccation, Klekowski, R. Z. (2); Resistance to desiccation of molluscs in temporary pools, Klekowski, R. Z. (3).

Hibernation.—Of *Rumina decollata*, Batts, J. H.; *Helix pomatia* metabolism during hibernation, Cardot & Ripplinger.

Effects of Salinity.—On amino-acid concentration of *Rangia*, Allen, K. (2); Of water on *Lymnaea cailliaudi*, Ezzi, M. A. E.; Salinity tolerances of *Melongenella corona* in Florida, Hathaway & Woodburn; Survival of *Planorbis* in diluted seawater, Klekowski, R. Z. (2); Influence of salt content of the medium on *Lymnaea* neurosecretory cells, Lever & Joosse; Rate of water pumping of *Modiolus demissus* in relation to salinity, Nagabhushanam, R. (5); Low salinity causes death of *Martesia striata* larvae, Nagabhushanam, R. (6); Paleosalinity prediction using trace element concentration in oyster shells, Rucker & Valentine (1); Tolerance of gill cilia to various sea water concentrations, Shinkawa, H. (3); Influence of various salinities on *Teredo*, Soldatova, I. N. (2); Reactions of

Cellana radiata to salinity changes, Sukumaran & Krishnaswamy; Salinity factor and the fauna of oyster beds, Wells, H. W.

ZOOGEOGRAPHY

Acclimatisation, Migration and Dispersal.—Distribution of *Physa acuta*, Akramovskii & Aliiev; Use of ^{45}Ca in study of *Australorbis* dispersion and range, Azevedo, Barreira, Gil & Gomes; Distribution and occurrence of *Rumina decollata*, Batts, J. H.; Distribution of *Cochlicella*, Boulangé, J.; Molluscan phases and distribution of key shells from late glacial to historical times, Burchell, J. P. T. (2); Geographical distribution of *Hydrobia ulvae* and *H. ventrosa*, spread and dispersal of *Potamopyrgus jenkinsi*, [Clay, E.] (1); Distribution of Achatinellidae and Tornatellidae, Cooke & Kondo; Effect of climate on the distribution of animals, Craig, G. Y.; Distribution of Jurassic pelecypods in the Indo-Pacific regions, Hayami, I. (3); *Cyclope westerlundii* distribution study, Iiyama, L. B. (2); Penetration of Bivalvia of marine and brackish origin into fresh waters, related to spermatozoan morphology, Karpevich, A. F.; Derivation of the Hawaiian cypraeid fauna, Kay, A. (7); On the distribution of species of *Berthelinia*, Keen & Smith; Localities of *Cylindrus obtusus* (Drap.), Klemm, W.; Spacial distribution of *Cepaea nemoralis* characterised by formation of colonies, Lamotte, M.; Guide to littoral and sublittoral molluscs, Luther & Fiedler; Migration of Mediterranean cephalopods, Mangold-Wirz, K.; Geographical distribution of the major genera of the Pilidae, Michelson, E. H. (1); Field experiment with oysters in Scotland, Millar, R. H. (1); Distribution of "*Unio*" *valdensis* Mantell, Mongin, D. (4); Distribution of *Carinaria*, Okutani, T. (2); Faunal provinces and a detailed study of Panamic-Pacific Pelecypoda, Olsson, A. A.; Thermal resistance limits of bivalves and their horizontal and vertical distribution, Reshöft, K.; Distribution of fossil cephalopod shells, Reymont, R. A. (2); Seasonal succession between *Arion* and *Deroceras*, Roy, A.; Scope and distribution of *Syrionautilus*, Shimansky, V. N. (1); Problem of the direction of migration of the stenohaline fauna of Konkak, Turkmenia, Sudo, M. M.; Paleogeological zoogeography, Valentine, J. W. (1); Present distribution of *Limax valentianus*, Walden, H. W.; Factors influencing distribution of *Calyptopora chinensis*, Wyatt, H. V. (1); *Cyprina islandica* distribution, Zatsenip & Filatova; Distribution of Jurassic *Aulacostephanus*, Ziegler, B. (2).

Europe.—Detailed molluscan study in Poland, Berger, L.; *Dreissena polymorpha* pest in industrial and power plants of North Germany, Breitig, G.; New records for Harz (mid Europe), Clauss, E.; Distribution of *Littorina littorea*, *L. littoralis*, *L. saxatilis* and *L. neritoides* in the British Isles, [Clay, E.] (2); Distribution of *Macoma balthica* and *Tellina tenuis* in Britain, [Clay, E.] (3); Factors governing distribution of snails in Marlborough water meadows, Disney, R. H. L.; *Littorina saxatilis* from the North of the Iberian peninsula at Rios and Rias de Ribadesella, Villavieja, Aviles, Pravia, Luarca and Navia and the French coasts, Fischer-Piette & Gaillard; Of 64 molluscs from Tressin near Mladec, Moravia, Flisar, I. (1); Bottom fauna of the English Channel, Holme, N. A. (1); Distribution of terrestrial Mollusca in the Urals, Khokhutkin, I. M.; *Gyraulus riparius* distribution in Finland, Koli, L. (1); Mussel populations of the British Isles, Lewis & Powell; Distribution of *Mytilus* around the S.W. coast of France, Lubet, M. P.; Distribution and possible spread of *Teredo* in the Kiel Canal, Schütz, L.

Africa.—Cephalopoda off the east coasts of Africa, Adam, W.; Zoogeographical study of the freshwater molluscs of Mozambique, Azevedo, Medeiros, Faro et al.;

Index of ammonites from Madagascar, Collignon, M. (1); Range distribution of African Ampullariidae species of the genus *Pila*, Pail, T.

Canada.—Zoogeographical position of the middle and upper Jurassic ammonite faunas of the Canadian Arctic, **Frebold, H.**

Asia.—Distribution of *Amphidromus* in S.E. Asia, **Laidlaw & Solem**; Origins of the freshwater molluscan fauna of Asia, **Martinson, G. G.** (2); Vertical distribution of oysters at Mutsu Bay and Hiroshima Bay, Ariake Sea, Kagoshima, Mibo and Matsushima Bays, comparative report, **Shinkawa, H.** (1); Localities and distribution of species of mollusc in Malayan limestone hills, **Tweedie, M. W. F.**

North America.—Gastropoda of Northern Louisiana, **Branson, B. A.** (4); Systematic lists of Carboniferous Mollusca from Missouri, **Hoare, R. D.**; Size distribution of *Pomatiopsis cincinnatiensis* at Tecumseh Station, Lenawee Co., Michigan, **Schallie & Getz.**

South America.—Distribution of cephalopod shells in Brazilian deposits, **Beurlen, K.** (2).

General Lists and Catalogues.—List of *Conus* species from Eniwetok, Marshall Islands, **Anon** (28); List of Trigonidae from the Jurassic and Cretaceous of S.E. Tanganyika, **Aitken, W. G.**; Mollusca listed from the Pleistocene of the Leeward Islands, **Altena, C. O. v. R.** (1); Fossil shells of the Netherlands coasts, **Altena, Bloklander & Pouderoyen**; Land and freshwater molluscs listed from Tarragona, Spain, **Altirra, C.**; Additions to New Brunswick checklist, **Athearn, H. D.** (1); List of Eocene Mollusca from Austria, **Bachmayer, F.**; List of ammonites from the Jurassic of Poland, **Barczyk, W.**; Check list of molluscs in the Ross Reservation, Kansas, **Basch, Bainer & Wilhm**; List of Mollusca (excluding Cephalopoda) of Ghana, **Bassindale, R.**; Checklist of Wyoming recent Mollusca, **Beetle, D. E.** (2); Land and aquatic Mollusca from the Big Horn Mountains, listed, **Beetle, D. E.** (3); List of Mollusca inhabiting *Petroglossum nicaeense*, **Bellani-Santini, D.** (1); Sarmatian Mollusca from Hungary listed, **Boda, J.**; Molluscan lists from Denmark, **Brokman, S.**; Miocene Mollusca listed from Pontlevoy, France, **Buge & Calas**; Malacofauna of the Argentine Antarctic, **Carcelles, A. R.**; List of ammonites now referred to *Platynemiceras*, **Casey, R.** (6); List of Albin molluscs from Cap de la Hève, France, **Cayeux, L.** (3); Land and freshwater Mollusca of Caicos Islands, Ragged Islands and Islands on Cay Sal Bank, Bahamas, **Clench, W. J.** (2); Key to the Pelecypoda of South Australia, taxonomic lists, distribution and general notes, **Cotton, B. C.** (2); Type and figured specimens in the Commonwealth Palaeontological Collection, Canberra, **Crespin, I.**; List of freshwater Mollusca from the National Park of Niokolo-Koba, **Daget, J.** (3); List of freshwater Mollusca from the "Fontaine de Nîmes," **Devitts, J.**; Molluscan hosts and their parasites, **Dollfus, R. P.**; List of Pleistocene Mollusca from Houston, Texas, **Dubar & Clopine**; List of all terrestrial species represented in Louisiana with new records, **Dundee & Watt**; Mollusca from the Cretaceous, Jurassic, Trias and Tertiary of the Oulad Nail Mts., Sahara listed, **Emberger, J.**; List of species collected at Lake Miragoane, Haiti, **Eyerdam, W. J.** (1); Molluscs and brachiopods from Afognak and Sitkalidak Islands Alaska, **Eyerdam, W. J.** (2); List of Holocene molluscs from Uruguay, **Figueras, (Montfort) A.** (4); List of pteropods and heteropods caught off Morocco, **Furnestin, M.-L.**; Faunal list and tables of the Mollusca in the Mátra Mts., Hungary, **Gebhardt, A.** (1); Systematic list of Jurassic Perisphinctidae from Germany, **Geyer, O. F.** (1); List of Jurassic ammonites from Württemberg, Germany,

Geyer, O. F. (3); List of invertebrates collected by the author from 1949 to 1960 in 73 subalpine caves, **Ginet, R.**; Catalogue of Cenozoic Volutacea in the foreign collections of the "Institut royal des Sciences naturelles de Belgique," **Gilbert, M.** (1); Catalogue of Cenozoic Conacea in the "Institut royal des Sciences naturelles de Belgique" from other countries, **Gilbert, M.** (2); New Japanese marine shells listed, **Habe, T.** (10); New Japanese Cancellarid species listed, **Habe, T.** (11); Type specimens of Japanese fossils, horizon, locality and repository, **Hanzawa, Asano & Takai**; List of molluscs from the Sieben Mts., Germany, **Häselin, L.**; Jurassic pelecypod fauna of Japan listed, **Hayami, I.** (3); Unionidae of Ottawa Co., Michigan, **Heard, W. H.** (1); Catalogue of Hosoya shell collection deposited in Yokosuka City Museum, **Horikoshi, Nomura & Saito**; List of Jurassic Mollusca from Perrogney (Haute-Marne) France, **Houdart, J.**; Distribution records of land shells in the south eastern United States, **Hubricht, L.** (1); Land snails of the Loess of Mississippi, **Hubricht, L.** (2); List of gastropods from Biaz, Moldavia, **Husanu, O.**; List of Cenozoic Mollusca from the median depression zone of Hokkaido, **Imanishi, S.**; Malacological list from Switzerland, **Jutting, W. S. v. B.** (4); Varna Sea mollusca listed, **Kaneva-Abadjieva, V.**; List of Hawaiian species of *Cypraea* with notes, **Kay, A.** (4); Check list of West American species of Vermetidae, **Keen, A. M.** (4); Species of *Berthelinia*, **Keen & Smith**; Terrestrial molluscan distribution in the Urals, **Khokhutkin, I. M.**; List of types in the Berlin Zoological Museum, **Kilias, R.**; Pliocene and Pleistocene PreUral's Mollusca listed, **Kirilina, S. V.**; Systematic list of brackish water Mollusca in S.W. Finland, **Koli, L.** (2); Gastropoda (land and marine) collected by J. L. Gressitt, **Kondo, Y.**; Mollusca from the Loess of Czechoslovakia, **Kukla, Ložek & Zábrubá**; Mollusca of the Okinawa Is., lists and a catalogue, **Kuroda, T.** (1); Check list of recent marine molluscs of Japan, **Kuroda & Habe**; Jurassic ammonites from Stobnica, Poland, **Kutek, J.** (1); *Amphidromus* synonymy list with notes on variations and affinities of species, **Laidlaw & Solem**; Southern Californian opisthobranchs, **Lance, J. R.**; Checklist of New Brunswick non-marine Mollusca, **La Rocque, A.** (2); A checklist of Newfoundland non-marine Mollusca, **La Rocque, A.** (3); Terrestrial gastropods fig'd. from the Wisconsin of Illinois, **Leonard & Frye**; Lists of interglacial Mollusca from Czechoslovakia, **Ložek, V.** (16); Carpathian Mollusca listed, **Ložek, V.** (26); Mollusca from near Netolice, Czechoslovakia, **Ložek, V.** (27); List of east Bohemia Mollusca, **Ložek, V.** (29); List of Quaternary Mollusca from Předměstí near Přerov, Czechoslovakia, **Ložek in Žabera, Ložek, Kneblová, Fejfar & Mazálek**; Miocene Mollusca from Bessarabia, Roumania, **Macarovič, N.**; Czechoslovakian Mollusca from the River Oder, **Mácha, S.**; Checklist of molluscs of Los Angeles Bay, **McLean, J. H.** (2); Pleistocene malacofauna of Grammichele, Sicily, **Malatesta, A.**; List of Mollusca from the Dolomites, **Marcuzzi, G.**; List of terrestrial gastropods from the Havre region, **Mauray, A.** (1); Dulcicole and hygrophile gastropods from the Havre region, **Mauray, A.** (3); Mollusca from the Gulf of Kutch, **Menon, Datta Gupta & Das Gupta**; Mollusca from the Eifel Lakes, **Miegel, H.** (1); Nudibranch fauna of the Isle of Man region of the Irish Sea, **Miller, M. G.**; Mollusca from the Loess of Minsk, **Motuz, V. M.** (1); List of Mollusca in the Pleistocene sediments at Brno [determined by J. Petržák], **Musil, Valoch & Nečasny**; Catalogue of fossil fauna localities in Buryat, ASSR, **Naletov, P. I.**; Molluscan fossils of the Zizédo sand and Yabu sand and gravel, Japan, **Ogose, S.** (1); Gastropoda and Lamellibranchia of Östensjövänn Lake, Norway, **Skland, J.**; List of molluscs found in the stomach of the common eel, **Olazarrí, J.**; List of new

combinations of molluscan names from the Cenozoic of Japan, Oyama, K. (5); List of Mollusca from the Ionian sea, Parenzan, P. (2); Checklist of New Zealand Mollusca, Powell, A. W. B.; Lists of Mollusca from the Mesolithic station at Zátyni near Dubá, Prošek & Ložek (1); Macrofossils of the Port Waikato region, New Zealand, Purser, B. H.; Key to identification of shells of land snails, Quick, H. E.; Non-marine molluscs of South India, Ray, H. C.; Faunal list of the R. Oker, at Brunswick, Reichenbach-Klinke, H.; Jurassic Mollusca from Calvados, Rioult & Bassompierre; List of Rissoellidae, genera, subgenera and species of the western Atlantic, Robertson, R. (3); A preliminary checklist of Lake Bonneville Mollusca, Roscoe, E. J. (2); List of new species of *Cypraea* described since 1938, Schilder, F. A. (2); On the Cypraea Catalogue of 1941, Schilder, F. A. (5); Key to the slugs of the Netherlands based on external morphology, Schouten, A. B.; Key to species of *Plagiphyeria* p. 137, Schütt, H. (2); Lists of Miocene *Inoceramus* from N.W. Germany, Seitz, O.; Mollusca of the Miyazaki group, Shuto, T. (1); Fossil Mollusca from Angola, Silva, G. H. da (1); New records for Stewart Island, Smith, E.; Annotated list of New Caledonian land and freshwater snails, Solem, A. (1); Mollusca from Mesopotamia, Iraq, Soyer, R.; Gastropoda of Dar es Salaam, Spry, J. F.; Key to Chilean species of Mytilidae, Stuardo, J. (2); List of Chilean freshwater molluscs, and key for identification of genera, Stuardo, J. (3); Opisthobranchia from Turkey, Swennen, C.; Checklist of the fauna of northern Florida Bay and adjacent brackish waters of the Florida mainland, Tabb & Manning; Checklist, figs. and distribution maps of shell-bearing land-snails of Ohio, Taft, C.; Mollusca of the Malayan limestone hills, Tweedie, M. W. F.; Pleistocene Mollusca and associated fossils from California, Valentine, J. W. (1); Black Sea Mollusca, Valkanov, A.; Miocene Mollusca from eastern Azerbaidjan, Vekilov, B. G.; List of the fauna of the *Nereites* shales, Thuringia, Devonian, Volk, M.; Atlas of Tertiary faunal-complexes of the Pre-Caucasus, Volkova, N. S.; Gastropoda and Pelecypoda collected by the author, alphabetical list of species, from Water Is., Virgin Islands, Weber, J. A.; Fossil Mollusca, palaeoecology and associations, Monahans Dunes and Lubbock Lake, Wendorf, F.; Cephalopoda and their ranges in the Ordovician of Canada, Wilson, A. E.; List of features common to fossil remains placed in the Mollusca with particular reference to Coniconchia, Yochelson, E. L. (2); List of post-glacial Mollusca from near Buštěhrad, Czechoslovakia, Žehera & Ložek (1); Mollusca of Rabenau near Dresden, Zeissler, H.; Types in the Senckenberg Museum, Zilch, A.

DISTRIBUTION

(A) Geographical

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FOSSIL, LAND AND
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PALAEOARCTIC REGION

Afghanistan.—Cave dwelling Gastropoda, Lindberg, K.; Cretaceous Mollusca from Pail-i-Khumri and Kataghan, Ronchetti, C. R.; Jurassic molluscs from Karkar, Ronchetti & Sestini.

Albania.—Land and fresh-water molluscs, Jaekel & Schmidt.

Arabia.—Upper Triassic lamellibranchs from the Oman peninsula, Hudson & Jefferies.

Arctic Islands.—Radiocarbon dating of raised beaches in North East Land, Svalbard, Blake, jr. W.; Lower Triassic Artoceratids from Spitsbergen, Svalbard, Kummel, B.; Triassic Mollusca from Queen Elizabeth Islands, Arctic Archipelago, Tozer, E. T.

Armenia.—Palaeogene Mollusca from the south west, Aslanyan, P. M. (1); Oligocene Mollusca, Aslanyan, P. M. (2); Eocene Mollusca from the south west, Aslanyan, P. M. (3); *Pecten arcuatus* in the Oligocene at Yerevan and Daralagez, Aslanyan, P. M. (4); Mid-Albian ammonites from Verin Agdan, Atabekyan, A. A.; Jurassic ammonites, Azarian & Akopian; History of freshwater molluscs, Bogachev, V. V. (2); Miocene Mollusca from Razdan, Gabrielyan & Nazaryan; Jurassic Mollusca from the North, Kryachkova, Z. V.

Asia.—Mesozoic and Cainozoic Mollusca, Martinson, G. G. (1).

Atlantic Islands.—Miocene Mollusca of the Grand Canary Island, Martel Sangil, M. (1).

Austria.—Geology of the Mürztal Mts., Mollusca, Corneliuss, H. P.; Palaeozoic Mollusca, Flägel, E.; Cretaceous rudists from Windischgarstein, Kuhn, O. (1); Triassic Mollusca from S. of Inn between Schwaz and Wörgl, Pirkel, H.; Miocene Turritellidae and Mathildidae, Sieber, R.

Belgium.—Molluscan associations with the flora of Panne à Bray-Dunes, Auteunis, A.; Carboniferous goniatites, Bouckaert, J.; *Gastrioceras* zone in the Andenne-Huy coalfield, Lambrecht & Leckwijk; Carboniferous Mollusca, Pastels, A. (1); Carboniferous lamellibranchs, Pastels, A. (2); *Helicodonta oboluta* added to the list of "occasional" cave dwellers, Tercats, R. R. (2).

British Isles.—Carboniferous *Naiadites* from Fife, Scotland, Bannison, G. M.; Ammonoidea of the Lower Greensand in England, Casey, R. (1); Geological age of the Sandringham Sands determined by Mollusca, Casey, R. (3); Lower Greensand Mollusca from the Isle of Wight to the border of Yorkshire, Casey, R. (4); Nomenclatorial corrections for Cretaceous gastropods from Sussex, Casey, R. (5); *Theba pisana* in Guernsey, Crowley, T. E. (1); *Pisidium* at Upton Warren, Worcestershire, Dance, S. P.; Snails in the Marlborough water meadows, England, Disney, R. H. L.; Carboniferous non-marine lamellibranchs in the Leinster coalfield, Eagar, R. M. C.; New records for non-marine Mollusca, Ellis, A. E.; Non-marine Carboniferous lamellibranchs from Provannill, Glasgow, Forsyth, I. H.; *Agriolimnax agrestis* from the Isle of Harris, Outer Hebrides, Heppell, D. (1); Naturalization of *Mercuraria mercenaria* in Europe and particularly Britain, Heppell, D. (2); Freshwater snails in the west of Scotland, Hunter, W. R. (1); Four freshwater snail populations in Loch Lomond, Scotland, Hunter, W. R. (2); Gastropoda near Coulsdon, Surrey, Jones & Castell; Non-marine Mollusca from the last Glaciation period, Stroud, Gloucestershire, Large & Sparks; A raised beach section at Groomsport, Co. Down, Ireland, MacDonald, R.; Lists of species from Loch Nevis, Scotland, McIntyre, A. D.; Holocene non-marine Mollusca from N.E. Ireland, McMillan, N. F. (1); Cretaceous Mollusca of Norfolk, Penke & Hancock; Goniatite bearing shales near Buttevant, North Co. Cork, Ireland, Philcox, M. E.; New Carboniferous nautiloids from Ireland, Ramsbottom & Moore; *Cepaea nemoralis* predation by birds and rodents in Cambridgeshire, Sacchi, C. F. (4); Freshwater Mollusca from a borehole at Mein Water, Ecclefechan, Dumfriesshire, Shillitoe, J. S.; Post-glacial molluscs from Apethorpe, Northamptonshire, Sparks & Lambert; Carboniferous non-marine Lamellibranchia, Trueman & Weir; Carboniferous non-marine Lamellibranchia, Weir, J.; New Carboniferous goniatites from Slieve Anierin, Co. Leitrim, Ireland, Yates, P. J.

Bulgaria.—Palaeozoic Mollusca, Spassow, H.

Caspian Sea Area.—Marine cardinals from the Neogene of Asia Minor and the Caspian Sea, **Bogachev, V. V. (1)**; Ponto-Caspian basin freshwater Mollusca, **Bogachev, V. V. (2)**.

Czechoslovakia.—History of Moravian freshwater molluscs, **Bogachev, V. V. (2)**; Devonian Tentaculitoida from Bohemia, **Bouček & Prantl**; Devonian Mollusca from Central Bohemia, **Chlupáč, L.**; Burdigalian Mollusca from Považská Bystrica, **Čtyroký, P. (1)**; Aquitanian Mollusca from Moravia, **Čtyroký, P. (2)**; Quaternary Mollusca from Ostrava, **Fejfar, Kneblová, Dohnal & Lošek**; Mollusca from Mladec, Moravia, **Flasar, I. (1)**; New genera of Monoplacophora and Patellacea from Bohemia, **Horný, R.**; Critical evaluation of *Cochlicopa* from Czechoslovakia, **Hudec, V. (1)**; *Oxychilus* from Neratovice near the middle Labe [Elbe], **Hudec, V. (3)**; *Boettgerilla* sp. new to Czechoslovakia, found in the Ostrava region, **Hudec & Mácha**; Miocene Mollusca from Kostelci and Lake Karáská, **Kalabis, V.**; Liassic Mollusca from Čierny Lehota, Strážovské Mts., Bratislava, **Kochanová, M.**; Liassic Cephalopoda, **Kollárová-Andrusová, V. (1)**; Triassic Ammonoidea from the Carpathians, **Kollárová-Andrusová, V. (2)**; Mollusca from the Loess, **Kukla, Lošek & Zárubá**; Quaternary molluscs from "Zámeček" Nitriansky Hrádok near Šurany, **Lošek, V. (1)**; Quaternary Mollusca from freshwater limestones at Malý Újezd near Mělník, **Lošek, V. (2)**; New Pleistocene Mollusca, **Lošek, V. (7)**; Pleistocene *Vertigo pseudosubstriata* from Horkách and Jizerou, **Lošek, V. (9)**; Interglacial Mollusca from Předmostí near Přerov, **Lošek, V. (10)**; Holocene Mollusca from Háj near Turňa, **Lošek, V. (11)**; Interglacial Mollusca new to Slovakia, **Lošek, V. (12)**; Pleistocene Mollusca from Chlupáč-Höhle, **Lošek, V. (13)**; General note on Mollusca from the Carpathians, **Lošek, V. (17)**; Pleistocene *Gastropoda* from Prague, **Lošek, V. (19)**; Pleistocene *Monachoides umbrosa* from Hradiště near Vrátnom, **Lošek, V. (20)**; Molluscan lists, **Lošek, V. (27)**; Quaternary molluscs, **Lošek, V. (28)**; Molluscan fauna of east Bohemia, **Lošek, V. (29)**; Pleistocene Mollusca from Moravany near Píšťany, **Lošek in Ambros, Lošek & Prošek**; Interglacial Mollusca from Hradiště near Vrátnom, **Lošek & Kneblová**; Quaternary Mollusca from Tušín near Přerov, **Lošek & Tyráček**; Quaternary Mollusca from Velká Kobylanka near Hranice (Weiskirchen), **Lošek, Tyráček & Fejfar**; Mollusca from the River Oder in the Moravia area, **Mácha, S.**; *Inoceramus* from the Cretaceous of the Uh River, Nová Sedlica, **Nemček, J.**; Pleistocene Mollusca from Dolní Věstonice, Moravia, **Petrbok, J. (1)**; Paleomalacozoological contribution to the study of the Bohemian karst, **Petrbok, J. (2)**; Pleistocene Mollusca of localities in the vicinity of Brno, **Petrbok, J. (3)**; Pleistocene Mollusca from Banka near Píšťany, lower Váh basin, **Prošek & Lošek (2)**; Pannonian *Theodoxus* from Čejč, Moravia, **Řehoř & Řehořová**; *Boicomytilus* new Devonian genus, Bohemia, **Růžička & Prantl (1)**; *Neuvillerpecten* from the Devonian, **Růžička & Prantl (3)**; Cretaceous Mollusca from the Osoblaha (Hotzenplotz) region of the Sudeten Mts., **Skácel, J.**; Cretaceous *Desmoceras* from the Radhošť Mt., Beskydy Mts., Moravia, **Stráňk, Z.**; Miocene Mollusca from Slovenska, **Švagrovský, J.**; Cretaceous Mollusca from Bohemia, **Tröger, K.**

Denmark.—Landsnails of the Danish seashore, **Bondesen, P.**; Danian Mollusca, **Rosenkrantz, A.**

Egypt.—Oviposition of snails, **Abdel-Ghani, A. F.**; Snail vectors of bilharziasis and fascioliasis, **Gohar & El-Gindy**; Miocene Mollusca from Gebel Oweibed, **Said & Yalouse.**

Europe.—Variation in the radula of *Lymnaea peregrina* in N.W. Europe, **Berrie, A. D.**; Oxygen isotope paleotemperature measurements of Cretaceous Belemnoida, **Bowen, R. (1)**; Liassic ammonite zones and subzones of the N.W. European province, **Dean, Donovan & Howarth**; Characteristic Mollusca of the marine Tertiary, **Gripp, K.**

Finland.—*Gyraulus riparius* distribution, **Koll, L. (1)**; Brackish water molluscan fauna from Tvärminne, **Koll, L. (2)**.

France.—Occurrence of *Helicodiscus singleyanus inermis*, **Altena, C. O. v. R. (3)**; Mollusca from the Pleistocene of l'Her, Haute-Garonne, **Astre, G. (2)**; Cretaceous *Pachytraga* from Doubs, **Astre, G. (4)**; Jurassic ammonites from Roche-sur-Vannion (Haute Saône), **Beauvais, L.**; Liassic ammonites from Lons-le-Saunier Jura, **Blaison, J.**; Presence of Jurassic *Gleviceras*, **Blaison & Théobald**; Liassic ammonite zones of Abbans-desu, **Bourquin, Faure & Théobald**; Miocene-Pliocene gastropods from the Loire, **Brébion, P. (1)**; Miocene Mollusca from western France, **Brébion, P. (2)**; *Belemnella* from the Senonian of Meudon, **Brotzen & Birkelund**; Miocene Mollusca from Pontlevoy (Loir-et-Cher), **Buge & Calas**; Jurassic cephalopods from Normandy, **Cayeux, L. (1)**; Cenomanian Mollusca from Saint-Jouin, **Cayeux, L. (4)**; Albian ammonites from the Havre region, **Cayeux, L. (5)**; Freshwater Mollusca in the "Fontaine de Nimes," **Devids, J.**; Cretaceous ammonites, **Didon, J.**; Mollusca of Palaeozoic rocks of Grange (Maine-et-Loire), **Erben, Leardoux, Lys, Fillet et al.**; Cretaceous ammonites from the Beausset basin, **Fabre-Taxy, S.**; Jurassic Mollusca from Indre Dept., **Fischer, J.-C. (1)**; Cretaceous *Unio* from Montplaisir, Thézac (Aude), **Freyet, P.**; Gastropods carried by the Rhône in flood and deposited near Avignon, **Granier, J. (1)**; Quaternary Gastropoda, *L'Isle-sur-Sorgue*, **Vauluse, Granier, J. (2)**; *Murella muralis v. organensis* (= *Helix organensis* Philbert) described from Vauluse, **Granier, J. (3)**; Cretaceous pulmonates from Derrière-la-Croix, Lauzanier, **Gubler, Y.**; Lists of gastropods from the Jurassic of Perrogney (Haute-Marne), **Houdart, J.**; Miocene Mollusca from Roquebrune (Alpes-Maritimes), **Laworsky, G.**; Bronze age Mollusca from Haute-Savoie, **Jayet, A.**; Liassic Mollusca from the Keuper of Lorraine, **Laugier, R.**; Miocene Mollusca from Entre-Deux-Mers, **Magne & Pratviel**; Albian Mollusca from Lorraine, **Maubouge, P. L. (1)**; Miocene Mollusca from Basse Provence, **Mongin, D. (1)**; Cretaceous siliceous concretions in the Charente River, **Patte, E.**; Jurassic ammonite localities, **Radodé-Brstina, R. (1)**; Jurassic *Hecticoceras* from Besançon, **Rangheard, Y. (1)**; Jurassic *Hecticoceras* from the Jura, **Rangheard, Y. (2)**; Jurassic Mollusca from Besançon-Palente, **Rangheard & Théobald (2)**; Parasitism (by trematodes) of *Hydrobia ventrosa* in the Camargue, **Rébecq, J.**; Methods of controlling disease-carrying molluscs in Normandy, **Ricou, G.**; Liassic ammonites from May-sur-Orne (Calvados), **Rioult, M. (1)**; Kimmeridgian Mollusca from Normandy, **Rioult, M. (2)**; Jurassic of Beuzeville, Calvados, **Rioult & Basompierre**; Quaternary study of the Dôme de la Mure and its environs, **Sarrot-Reynaud, J.**; *Schlotheimia* from the Cretaceous of Saint-Laurent de l'Escarène, **Thomel, G. (1)**; New ammonite from the Hauterivian of Falicon (Alpes-Maritimes), **Thomel, G. (2)**; New Cretaceous *Lyticoceras* from Nice, **Thomel, G. (3)**; Cretaceous Mollusca from the Asse Valley (Basses-Alpes), **Thomel, G. (4)**; Liassic ammonites from Noyat Côte-d'Or, **Tintant, H.**; Liassic Amaltheidae from the Côte-d'Or, **Tintant, Gauthier & Lacroix**; Remnants of Tertiary Mollusca from Château-Thierry, **Titier, A.-M.**; Anclidae in the "étang de Corée à la Pacaudière," **Roanne (Loire), Wautier & Odievre**; Jurassic *Gravesia*, **Ziegler, M. A.**

Germany.—Jurassic Perisphinctidae from the south, Geyer, O. F. (1); Jurassic ammonites from Württemberg, Geyer, O. F. (3); Triassic molluscs from N. Vorland, Gramann, F.; Molluscan fauna of the Sieben Mts., Häslein, L.; Post-glacial Mollusca from the Breitenburg Cave, Gossenstein, Häslein in Brunner, G.; Cretaceous Mollusca from Osnabrück, Hiltermann & Lüttig; Miocene and Oligocene molluscs, Hösl, O.; Fossil Mollusca from the Mainz river basin, Koenderink, A. G.; Fauna of the Solnhofener shales, Kühn, O. (2); *Ancylus fuvialis* distribution study, Miegel, H. (3); Devonian fossils from Blankenheim, Ochs & Wolfart; Effect of pollution on the R. Oker fauna, examined at Brunswick, Lower Saxony, Reichenbach-Klinke, H.; *Clydonoceras* from the Jurassic of Balingen, Rieber, H.; Liassic *Cymbites*, Schindewolf, O. H. (2); Review of *Euchilus* and description of three new species and genera, Schlickum, W. R. (2); Miocene *Inoceramus*, Seitz, O.; Carboniferous marine Mollusca, Sittig, E.; Mollusca of "Rabenauer Grundes," Dresden (list), Zeissler, H.

Greece.—Pliocene Mollusca from the Isle of Karpathos, Anapliotis, K. (1); Pleistocene Mollusca from Karpathos Is., Anapliotis, K. (2); Mollusca, a geological study, Aubouin, J.; Upper Cretaceous Mollusca, Aubouin, Brunn, Celet et al.; Gastropoda photos., Jaekel & Plate; Oligocene brackish water Mollusca from West Thracia, Mitsopoulos, M. K.; Senonian rudists from Toulou-Kamen, Sakellariou, H.

Greenland.—Jurassic Mollusca, Callomon, J. H.; Cretaceous Mollusca, Donovan, D. T.; Permian invertebrates of central east Greenland, Dunbar, C. O.; Permian Mollusca, Mayne, W.; Triassic ammonites from the East, Trümpy, R.

Holland.—Mollusca of the Zuiderzee, Jutting, W. S. S. v. B. (1); Fossil freshwater molluscs from the Zeeland beaches, Moraal, J. M. (2); Slugs of the Netherlands, Schouten, A. R.; Underground aquatic Mollusca from South Limburg, Stock, J. H.

Hungary.—Miocene molluscs of Szokolya, Börzönyi Mts., Báldi, T.; Oligocene Mollusca from Eger, Carpathian basin, Báldi, Keckeméte & Nyíró; Miocene Mollusca from Lake Balaton, Bartha, F.; Cretaceous Gastropoda, Benkő-Csabalay, L.; Miocene Mollusca, Boda, J.; Senonian marine Mollusca from the S. Bakony Mts., Csabalay, L. B.; Malacological study of the Mátra Mountains, Gebhardt, A. (1); Mollusca from the area of the Danube around Mohács Is., Gebhardt, A. (2); Liassic *Cenoceras* subsp. nov. from the Bakony Mts., Transdanubia, Gécsy, B.; Triassic gastropods from the Transdanubian region, Gócsán, F.; *Lytopelte* in the Carpathians Grossu & Lupu (2); Pleistocene molluscan fauna of Tihany, Krolopp, E.; Triassic Mollusca from Gerecse, and Buda-Pilis Mts., Oravecz, J.; Triassic Mollusca from the Vertes and Bakony Mts., Oravecz & Végh-Neubrandt; New finds of molluscs at Lovász, Zala, Vászrhely, I.; Triassic Mollusca of the Gerecse Mts., Végh-Neubrandt, E.

Iran.—General study of *Oculigera*, Grubis, A.; Land molluscs from the north and east, Starmühlner, F.

Iraq.—Biological studies on *Bulinus truncatus*, Najarian, H. H.; Distribution of 6 molluscan species, first record of *Physa fontinalis*, Najim, A. T.; Mollusca from Mesopotamia, Soyer, R.

Israel.—New Paleocene belemnoid, Avnimelech, M. (1); Campanian ammonite from Mt. Scopus, Avnimelech, M. (2); Cretaceous ammonite from the eastern Negev, Avnimelech, M. (3); Distribution of lower Turonian ammonites, Freund, B.; Triassic pelecypods from the Negev, Lerman, A. (1); Cretaceous ammonite from the Southern Negev, Parnes, A.

Italy.—Pliocene Scaphopoda from Castell'Arquato, Piacenza, Caprotti, E.; Werfianen Mollusca from the Fiemme Valley (Trentin), Leonardi, P.; Fauna of the Dolomites, Marcuzzi, G.; *Myophoria* Triassic, Val Grana, Michard, A.; Calabrian *Cyprina islandica* from near Parma, Pelosio, G.; Mn⁴⁺ in a population of *Unio* in Lake Maggiore, Rava & Vido; Pliocene and Pleistocene marine Mollusca, Ruggieri, G.; Invertebrate macrofauna of the étang "Lago di Patria," Naples, Sacchi, C. F. (1); Bioclimatic study of the land snails and slugs of the Po plain and the Venice Lagoon, Sacchi, C. F. (6); Liassic ammonites from Saltrio, Sacchi-Vialli & Cantaluppi; Ammonite stratigraphy from Magnavacca cave, Monte Timarolo, Grezzano, Sturani, C.; Cretaceous rudists from Puglie, Tavan, G.; Mesozoic *Aptychus* from Casaselvatica, Val Baganza, Zanucchi, G.; Pliocene Mollusca from Castel Verrua, Zappi, L.

Mediterranean Islands.—Pulmonata from the Rovinj archipelago, Bole, Brelih & Zel; Jurassic Mollusca from western Sicily, Christ, H. A. (1); Giant Helicidae from Majorca, Colom, G. (2); Quaternary Tritonidae from Majorca, Guerdá Barceló, J.; Brackish water faunal associations in Sicily, Dulzetto, F.; Pleistocene malaco-fauna of Grammichele, Sicily, Malatesta, A.; Miocene Mollusca from Majorca, Oliveros, Escandell & Colom (1); Miocene Mollusca from the region around Inca, Majorca, Oliveros, Escandell & Colom (2); Molluscan stratigraphy from Crete, Psarianos & Vetonis; New subgenera of Nerineidae from the Jurassic of Sardinia, Rabbi, E.; Quaternary molluscs from Majorca, Rullán, J. B.; Pulmonata of the island of Lipari, Sacchi, C. F. (3).

Monaco.—Miocene Mollusca from Roquebrune-Cap-Martin, Feuguere & Le Calvez.

North Africa.—Carboniferous goniatites from the Sahara, Deleau, P.; Liassic ammonites from Morocco, Dubar, G.; Devonian *Sellanaerestes* from Drâa, Morocco, Holland, H.; Quaternary Mollusca from Ras-Tarf (Quilates Cape), Morocco, Jeannette, Joly & Maurer; Little known species and new varieties of *Helicella* from Tunisia, Liabador, F. (1); Subfossil terrestrial molluscs from Idelès, Algeria, Liabador, F. (2); Mesozoic lamelli-branches from the Sahara, Mongin, D. (3); Carboniferous *Goniatites* from the Sahara, Pareyn, C. (1); Carboniferous goniatites from Colomb-Béchar (Sahara Sud-Oranais), Pareyn, C. (2); Devonian Clymenida from the Sahara, Petter, G.; Cretaceous Mollusca from Tripoli, Ronchetti & Albanesi; Cretaceous Mollusca, Salvan, H.; Quaternary non-marine Mollusca from the central Sahara, Sparks & Grove.

Norway.—Fauna of the Östensjøvann Lake, Oslo, Skland, J.

Poland.—Ammonites of the Upper Jurassic around Sulejów, Barczyk, W.; Mollusca in the "transition zone" between Great Poland, Silesia and the Cracow-Wieluń Jura, Berger, L.; Jurassic molluscs from Kamien Pomorski region, Pomerania, Dayczak-Calikowska, K.; Tortonian *Spiralis* in the Carpathians Foreland area, Jurkiewicz & Karnkowski; *Phymatis* n.sp. from Sulejów Święty Krzyż Mts., Karczewski, L.; Upper Eocene molluscs from Bukowiec, Krach & Lisaka; Jurassic paleontology from Stobnica, Kutek, J. (1); Jurassic ammonites from Częstochowa, Malinowska, L.; Cretaceous *Inoceramus* from Biala-Bielsko, Nowak, W.; Jurassic belemnoids from the Kraków-Częstochowa Highlands and the Holy Cross Mts., Pugaczewska, H.; New Carboniferous *Polidocera* from Upper Silesia, Różicka & Bojkowski; Triassic Mollusca, Senkowiczowa, H.; Żoliborz interglacial Mollusca from Warsaw, Skompeki &

Ślowański; Carboniferous Mollusca from between Radlin and Górno Święty Krzyż Mts., Żakowa & Pawłowska.

Roumania.—Jurassic molluscs from Barol near Hirsova, Dobroudja, Bărbulescu, A.; New species of *Deroceera* from Bucarest, Grossu & Lupu (1); Revision of *Milaz* spp., Grossu & Lupu (3); Pliocene molluscs from the Vărbilău and Prahova valleys, Hangann, E.; Tortonian/Sarmatian boundary molluscs from the Cluj region, Mészáros & Nicorici; Mollusca from an andesite tuffa, Negoiești (Giovra valley, Olténie), Moțaș & Pătroescu; Quaternary molluscs from Glăvănești Vechi and Perieni, Obreja, A.; Eocene molluscs from Luna-de Sus-Ciurila region, S.W. Cluj, Tătarim, N.

Russia.—Mollusca concerned in unified stratigraphic schemes in the Urals, Anon. (10); Liassic ammonites from Nakhichevan, Azerbaidjan, Abdulkasumzade & Gasanov (1); Jurassic ammonites from Kedabeksk region, Azerbaidjan, Abdulkasumzade & Gasanov (2); Carboniferous lamellibranchs from Karagand, Aleksandri-Sadova, T. A.; *Pisidium casertanum* a living fossil in Azerbaidjan, Aliev, A. D. (1); Distribution of freshwater molluscs from Mingechaur to Ali-Bairamla, Aliev, A. D. (3); Cretaceous gastropods from the Minor Caucasus, Azerbaidjan, Aliev, G. A. (1); Opisthobranchia from the Cretaceous of Azerbaidjan, Aliev, G. A. (2); Cretaceous Pseudomelaniidae and Nerineidae from Azerbaidjan, Aliev, G. A. (3); Senonian lamellibranchs from Kopet-Dag, Turkmenia, Aliev, M. M. & R. A. (1); Cretaceous lamellibranchs from Kopet-Dag, Turkmenia, Aliev, M. M. & R. A. (2); Cretaceous molluscs from Dzhebrail, Azerbaidjan, Aliev, M. M. & R. A. (3); Upper Cretaceous Mollusca from the Koshkar-Kyurak watershed, Minor Caucasus, Aliev, O. B. (1); New Cretaceous gastropods from the Koshkar-Terter watershed, Minor Caucasus, Aliev, O. B. (2) & (3); Turonian *Inoceramus* from the Nakhichevan SSR, Aliev, R. A. (1); Cretaceous Mollusca from the S.E. Caucasus, Aliev, R. A. (2); Lower Cretaceous *Rhyncholites* from the S.E. Caucasus, Aliev, R. A. (3); Lower Cretaceous belemnites from the S.E. Caucasus, Alizade, A. A. (1); New Cretaceous belemnites from the S.W. Caucasus, Azerbaidjan, Alizade, A. A. (2); Cretaceous *Neohibolites* phylogeny from the Caucasus, Alizade, A. A. (3); New Aptian belemnites from the S.E. Caucasus, Alizade, A. A. (4); Eocene Patelidae and Capulidae of the Upper Talysh, Alizade & Baghmanov; Jurassic Mollusca from Tuarkyr, Turkmenia, Amanniyazov, K.; Miocene Mollusca from the Crimea and Caucasus, Andrusov, N. I. (2); Miocene fauna of the Black Sea region, Andrusov, N. I. (3); Neogene Mollusca from southern Russia, Andrusov, N. I. (4); Miocene Mollusca from the pre-Caspian region, Andrusov, N. I. (5); Neogene Mollusca, Andrusov, N. I. (6); Miocene Mollusca from Kerch and Timan, Andrusov, N. I. (7); Geology of the Taman peninsula, Andrusov, N. I. (9); Quaternary fauna in the Taz strata, Yenisei Valley between Igarka and Podkamennaya Tunguska, Arkhipov & Aleshinskaya; Lower Triassic *Ceratites* of the Karatau Range on Mangyshlak, Astakhova, T. V.; Triassic molluscan deposits in Nakhichevan, Azerbaidjan, Asizbekov & Gadzhiev; Lamellibranchs from the Chokraksk deposits, Georgia, Baghdasaryan, K. G.; Ordovician Nautiloidea, Balashov, Z. G. (2); Late Devonian inhabitants of the Kuznetz basin, Siberia, Belkaya, T. N.; *Neamnia* from the Miocene of the Kuz basin, Betekhtina, O. A.; Permian ammonoids from the Kosva, Usva and Sylva River Basins, Central Urals, Bogoslovskaya, M. F.; Devonian ammonoids from the Urals, Bogoslovsky, B. I.; New and known *Delphinula*, Cretaceous, Donbass, Blank, M. J.; Quaternary molluscs from the Apsheron peninsula,

Burchak-Abramovich & Dzafarov; Devonian Mollusca from the polar Urals, Chernov, G. A.; Early molluscan history of the Black Sea basin, Davitashvili, L. S.; Paleogene oysters from Prikarabogazye, Turkmenia, Dmitriev, A. V. (1); Fresh-water mollusc populations, S. and Trans-Ural, Dulkan, A. L.; Lower Cretaceous atlas of the fauna of the Northern Caucasus and Crimea, Drushchits & Kudryavtsev; Cretaceous ammonites from the northern Caucasus, Eristavi, M. S. (2); Jurassic lamellibranchs, gastropods and scaphopods from the central regions of European Russia, Gherasimov, P. A.; Fauna of the Miocene of Konksk, eastern Georgia, Ghrachevsky, M. M.; Cretaceous ammonites from near Saratova, Glazunova, A. E.; Gastropods from Bicas Moldavia, Husann, O.; Cretaceous *Coilopoceras* from Uzbekistan, Ilyin, V. D.; Quaternary Pyramidellidae, ecology and systematics, Black Sea basin, Ilyina, L. B. (1); Quaternary Mollusca from the Dnestr terraces, Ivanova & Popov; Sarmatian molluscs from the Moldavian central plateau, Jeanrenaud, P.; Permian and Devonian *Conularia* from the northern Urals, Kalashnikov, N. V.; Ordovician and Silurian *Michelinoceras* from the Akbaital region, E. Pamir, Karapetov, S. S.; Oligocene—Lower Miocene Mollusca from Northern Yergheny, Kazakova & Leonov; Palaeozoic pelecypod fauna of the Kuznetz Basin, western Siberia, Khalifa, L. L. (1) & (2); *Inoceramus* from the Cretaceous of the Minor Caucasus, Khalilov, A. G. (1); Mesozoic Mollusca from Bengry, Azerbaidjan, Khalilov, A. G. (2); Correlations between the upper Jurassic fauna of Georgia and the Northern Caucasus, Khimshiashvili, N. G.; Distribution of terrestrial molluscs in the Urals, Khokhutin, I. M.; Triassic Mollusca, Kiparisova, L. D. [Editor]; Pliocene and Pleistocene Mollusca of the Russian Platform and PreUrals, Kirilina, S. V.; Mesozoic ammonites and pelecypods from Yeluguy, Western Siberia, Klimova & Korneva; Biostratigraphical problems of the continental strata freshwater Mollusca, Kolesnikov, Ch. M.; New *Pseudocardinia* spp., Jurassic, Kazakhstan, Kolesnikov & Spasskaya; Cretaceous *Inoceramus* from Lvov region, Kotzyubinsky, S. P. (2); Significance of freshwater molluscs in the study of the Holocene, Kozlovskaya, L. S.; Middle Jurassic Mollusca of the U.S.S.R., Krimholz, G. [Editor]; Tertiary Mollusca from Western Kamchatka, Krishitovitch & Ilyina (1); Palaeogene and Neogene Mollusca from the Tighil region, W. Kamchatka, Krishitovitch & Ilyina (2); Lower and middle Jurassic ammonites from the Northern Caucasus, Krymgoltz, G. Y.; Sarmatian and Tortonian Mollusca from the Buglovsk basin, Kudrin, L. N. (1); *Nerinea quoyi* sp. nov. from the Jurassic of the Donetsk basin, Lankin, I. Y.; Miocene Mollusca of western Kopet-Dag, Turkmenia, Larchenkov, A. Y.; Interglacial Mollusca of the north correlated with those of western Europe, Lavrova, M. A.; New Jurassic and Cretaceous pelecypods, W. Siberia, Lebedev, I. V.; Palaeogene marine Mollusca from Western Siberia, Lipman, R. K.; Cretaceous Mollusca of the N.W. Caucasus, Lunov, N. P. (1) & (2); New Devonian goniatites from the Russian platform, Lyashenko, G. P. (1); Mid Devonian *Tentaculites* and *Styliolina* from the central provinces of the Russian platform, Lyashenko, G. P. (2); Palaeozoic nautiloid found in the dolomitized limestones of the Kola peninsula, Lyubtsov, V. V.; Miocene Mollusca from Bessarabia, Macarovici, N.; Cretaceous ammonites from the Koshkarch and Debetch region, Minor Caucasus, Mamedzade, R. N.; Jurassic unionids in western Transbaikalia, Martinson & Hong; Cretaceous ammonites from the rocky regions of the Crimea, Maslakova, N. I.; New Tertiary Corbulidae from the Aral Sea area, Merklin, R. L. (1); Palaeogene rock borer from Ferghana, Merklin, R. L. (2); New Eocene Scaphopoda of the northern Caucasus, Merklin, R. L. (3);

Oligocene Mollusca from South Mangyshlak, Merklin, Morozova & Stolyarov; Palaeogene oysters from Kashgaria, Mirkamalova, S. H.; Cretaceous Mollusca from the Northern Caucasus and Pre-Caucasus, Mordvilko, T. A.; Cretaceous ammonites and belemnites of the southern European part of Russia, Morozova, V. G.; Cretaceous Mollusca from the northern Caucasus and Crimea, Moskvina, M. M.; Cretaceous molluscs from Crimea, Caucasus and Transcaspiian region, Moskvina & Naidin; Mollusca from the local of Minak, Motuz, V. M. (1); Cretaceous *Belemnites* from the Russian platform, Naidin, D. P. (1); Cretaceous molluscs of the Russian platform, Naidin, D. P. (2); Catalogue of fossil fauna localities in Buryat, ASSR, Naletov, P. I.; New pelecypods from the Permian of Bashkirskaya, Nel'sina, R. E.; Quaternary molluscs from the Azov—Black Sea basin, Nevesskaya & Nevessky; Marine Jurassic molluscs from Transbaikalia region, Okuneva, T. M.; Cretaceous Mollusca from Lvov, Pasternak, S. I. (1); New Palaeozoic fauna of the Russian platform, Pavlinova-Ilyina, L. B.; Cretaceous Nerineidae from the Don Basin and Astrakhan province, Pchelintzev, V. F. (1); Lusatian Mollusca from the Pamir Mt. Range, Pchelintzev, V. F. (2); Vorkutsk pelecypods from the Pechorsk Basin, Pogorevich, V. V.; Miocene lamellibranchs from Cisbaikalia, Popova, S. M.; Permian Ammonoidea from the Verkhoyansk region, Yakutsk, Ruzhentzev, V. E.; Cretaceous belemnites, Chukhotsk peninsula, North Siberia, Saks, V. N.; Jurassic Mollusca from the central regions of the Russian platform, Sazonov, N. T. (1); Oligocene Mollusca from the Bolshoy Tokmak deposit and Khadam horizon, Northern Caucasus and Crimea, Selin, Yu. I.; Carboniferous Mollusca from the Russian platform, Semikhatova, S. V.; Carboniferous freshwater lamellibranchs from Samara, Sergeev, V. V.; Ontogenetic development of Triassic ceratites from the Caucasus, Shervyrev, A. A. (2); New Sarmatian cardinals from Mangyshlak, Turkmenia, Sidorova, N. P.; Cenomanian *Karamaites* from eastern Mangyshlak, Sokolov, M. I.; Pleistocene freshwater molluscs from R. Oka, Chekalin, Tula region, Starobogatov, J.; First discovery of Strobilopsidae in Russia, Stekolov, A. A.; Freshwater Mollusca from the region of Odessa, Stepanov, V. V.; Discovery of a lower Cambrian *Ceratotheca* in the Krasnoyarsk region, Siberia, Sysoev, V. A. (2); Devonian *Hereynella* in the Arctic Urals, Tohermov, G. A.; Palaeogene Mollusca from Western Siberia, Turbina, A. S.; List of Maikop bed molluscs from Dzhalgi, Western Georgia, Vakhaniya, E. K. (1); Oligocene and Miocene molluscs from Lechkhumi, Vakhaniya, E. K. (2); Palaeocene and Eocene Mollusca from eastern Kopet-Dag, Turkmenia, Valbe & Dzhabarova; Miocene molluscs from eastern Azerbaidjan, Vekilov, B. G.; Cretaceous *Actaeonella* from eastern Siberia, Sikhote-Alin Mts., Vereshchagin & Pchelintzev; Tertiary faunal-complexes of the central Pre-Caucasus, Volkova, N. S.; Carboniferous gastropods from the Karagandinsk basin and Zayvalov region, Vostokova, V. A.; *Boettgerella* from western Transcaucasia and Middle Georgia, Wiktor, A.; Jurassic molluscs from Kugitang, Turkmenia, Yuferev, R. F. (1) & (4); Jurassic Pandoracea from Kugitang-Tau ridge, Turkmenia, Yuferev, R. F. (2); Jurassic Anisomyaria from the Kugitang-Tau ridge, Turkmenia, Yuferev, R. F. (3); Miocene Mollusca from the Caucasus and Crimea, Zhiashchenko, B. P.; Devonian nautiloids from the central Urals, Zhuravleva, F. A. (1).

Spain.—Neogene *Chlamys* from Granada, Aguirre, E. de; Carboniferous Mollusca from Ciudad Real Prov., Almela, Alvarado, Coma et al.; Land and freshwater molluscs of Tarragona, Altamira, C.; Tithonic *Monnieria* from the Cordillera, Astre, G. (5); Cretaceous Mollusca, Bataller, J. R. (3) & (4); Mollusca from the Cantabrian

Cordillera north of Léon, Comte, P.; Miocene *Chlamys*, Crusafont Pairó, M.; Pliocene Linnocardiids from Barcelona similar to those of the Llobregat Valley, Gillet & Vicente; Carboniferous Mollusca from Cifera Matallana basin, Gomez de Llarena, J.; Carboniferous molluscs from Asturias, Hernández-Sampelayo, P.; Quaternary dwarf *Strombus* from Alicante, Imperatori, L.; Miocene Mollusca from Spain and western Europe, Jodot, P.; Living species of *Pisidium*, figs., Kuiper, J. G. J. (2); Carboniferous goniatites from the North, Kullmann, J.; Miocene lamellibranchs and gastropods, Lopez de Ascona, J. M. & M. C.; Revision of Aulacoceratidae, Meléndez, B. (1); New *Atractites* from the Liassic of Lérida, Meléndez, B. (2); Mesozoic Mollusca from Sierra Elvira (Granada), Moreno, I.; Silurian Mollusca from Guadarranque (Cáceres), Ramirez, E.; Cretaceous molluscs from Burgos Province, San Miguel de la Cámara & Colom; Devonian and Carboniferous goniatites from Cantábrica, Schindewolf & Kullman; Devonian *Barcinia* gen. nov. from Cataluña, Suñer Coma, E.; Carboniferous lamellibranchs from Santa Lucia-Matallana, Teixeira, C.; Oligocene Mollusca from Tárrega, E. de La Segarra, Truysols Santonja & Crusafont Pairó; Triassic Mollusca from the Sierra de Prades, Tarragona, Virgili & Julivert; Carboniferous goniatites, Wagner-Gentis, C. H. T.

Sweden.—Mollusca of sunny bluffs in N. Sweden, Andersson, J. S.; Land molluscs in different biotopes, Nilsson, A.

Switzerland.—Triassic Mollusca from the Col des Mosses between Aigle and Château d'Oex, Botteron, G.; *Belemnites* from the Campanian of Semsaes, Corminboeuf, P.; Coniacian and Santonian ammonites from Gosau, Gerth, H.; Malacological notes and lists of species, Jutting, W. S. V. B. (4); Jurassic ammonites from Bâle-Campagne, Mauberge, P. L. (2); New Miocene *Pecten* from S. of Bern, Rutsch & Steininger; Cretaceous *Puzosia* from Breggia (Südtessin), Ziegler, B. (1).

Turkey.—Locality lists for molluscs by K.-J. Gotting, study of *Paramastus* n.sp., Foreart, L. (1); Malacology, Götting, K. J.; Presence of *Joufia reticulata*, discussion of age, Karacabey, M.; Ammonite bearing beds in the region of Ankara, Türkünel, M.

Ukraine.—Molluscan freshwater fauna of the Dnieper terraces, Bogachev, V. V. (2); Cretaceous ammonites from the Central Carpathians, Eristavi, M. S. (1); Tortonian *Spiralis* in the Black Sea region and W. Ukraine, Jurkiewicz & Karnkowski; New Eocene Mollusca from the South, Korobkov, I. A.; Cretaceous *Inoceramus labiatus*, Kotzyubinsky, S. P. (1); Miocene Mollusca from the western region, Kudrin, L. N. (2); Malacofauna of Loess rocks of Ukraine, Byelorusia and Central Asia, Motuz, V. M. (2); Stratigraphical position of *Pecten elini* in the Trans-Caucasus, Petrashkevich, Grishkevich & Guridov; Miocene molluscs from the Transcarpathian basin, Petrashkevich & Guridov; Dysodontia and Desmodontia from the Eocene, Zelinska, V. O.; Palaeozoic nautiloids from Podolia province, Zhuravleva, F. A. (2).

Yugoslavia.—Jurassic ammonites from Greben, Andelković, M. Ž. (1); Jurassic ammonites from the Stara Planina Mts., Serbia, Andelković, M. Ž. (2); Geological study of the Mollusca of Montenegro, Bešlić, Z. M.; Dragačev region of west Serbia, Čirić, B.; Miocene Mollusca, plates and list, Eremija, M.; New Pliocene *Viviparus*, Jenko, K. (1); Pliocene Mollusca from Požega and Kasonja Mts., Jenko, K. (2); Miocene marine Mollusca of Medvednica, Zagreb Mts., Kochansky, V.; Palaeozoic Mollusca from Prača, (Bosnia), Kostić-Podgoraka, V. (1); Permian Mollusca from the Crni Potok, near Bar (Montenegro), Kostić-Podgoraka, V. (2);

Lists of Carboniferous molluscs, Kostić-Podgorica, V. (3); Cretaceous Mollusca from Hvar-Islands, Dalmatia, Langer, W. (1); *Inoceramus* from the Cretaceous of Dalmatia, Langer, W. (2); Cretaceous of the Kosmaj Mt. Sumadija, N. Serbia, Luković, S. M.; Cretaceous Mollusca from Ljig, Central Serbia, Marković, O.; Jurassic Mollusca from Budos, Montenegro, Mihajlović, M.; Miocene *Congeria* from the Belgrade region, Milošević-Pajić, O.; Cretaceous rudists, Milošević, B.; Miocene *Lymanacidae* from Croatia, Moos, A.; Tertiary Mollusca from deep boreholes, Croatia, Ošegović, F.; Triassic Mollusca from the neighbourhood of the Piva monastery, Crna Gora, Pantić, S. (1); Triassic Mollusca from near Nikšić, Pantić, S. (2); Permian gastropods from Boan (Montenegro), Pantić, S. (3); Eocene *Cardium* from Dalmatia, Pavlovec, E.; Triassic Mollusca from Hamatit and Smreka, Bosnia, Pavlović, P.; Jurassic Mollusca from the Velika Kapela Mts., Croatia, Poljak, J.; Cretaceous Mollusca from Žagubica Valley, Popović, R.; Cretaceous Mollusca from Montenegro, Rađović (-Bristina) R. (2); Dalmatian *Platigeyeria*, Schütt, H. (2); New freshwater species from Dalmatia, Schütt, H. (3); Miocene *Limnocardium* from Kadar, Bosnia, Stevanović, P. M.; Miocene Mollusca from Tamnava, W. Serbia, Stevanović & Milošević; Cretaceous *Inoceramus* from the Golubac Mts., eastern Serbia, Sudić-Protić, Z.; Jurassic Mollusca from Kučaj, Veselinović, D.; Liassic ammonites from Miholjac, Gacko, Vlahinjić-Dekić, K.

ORIENTAL REGION AND EAST INDIES

Chinese Subregion.—Permian cephalopods from Tanchiashan, Hunan, Chao, K.-K.; Triassic *Burmesia* from N.W. Szechuan, Chen, C.; Mesozoic molluscs from Shantung, Shensi and Kansu, Chow, M. M.; First occurrence of a Jurassic ammonite in Taiwan, Lin, C. C.; Liassic Mollusca from Kaizen region, Guandong province, Sun, Chai & Shao; Pleistocene freshwater Mollusca from North China, Wang, S.; Ordovician molluscs from Paiyangho region, Chienhsan, Yang, T.-Y.; New Carboniferous gastropod from Yunnan, Yu, W. (2); Ordovician gastropods from Kepin district, Southern Sinkiang, Yu, W. (3).

Indian Subregion.—Oxygen isotope paleotemperature measurements of Cretaceous Belemnoides, Bowen, R. (1); Mollusca collected from the amphitheatres of Minihagal Kanda, Ceylon, Deraniyagala, P. E. P.; *Crassostrea* shell deposits from Kelwa, N. of Bombay, Durve & Bal (2); Non marine Mollusca from South India, Ray, H. C.; Miocene fauna from Travancore-Cochin, Sahni & Sastry.

Indonesia.—New hydrobiid from Soapiti, Guinea, Binder, E.; Indonesian land snails of the genus *Amphidromus*, Laidlaw & Solem; Control of *Achatina fulica* on Guam, Peterson Jr., G. D.

Japanese Subregion.—Oxygen isotope paleotemperature measurements of Cretaceous Belemnoides, Bowen, R. (1); Pliocene Mollusca from N.E. Honshu, Chinsai, K.; Comparison of Poronai formation molluscs from Hokkaido with those of the W. American mid Tertiary, Durham & Sasa; New Miocene *Trisidos*, Fujii, S. (1); On Miocene *Anadara kakehataensis*, Fujii, S. (2); On Japanese Helicarioidae figs., Habe, T. (4); New *Bythinella*, fig., Habe, T. (5); New subterranean aquatic snails, Habe, T. (8); Triassic *Monotis* from Yamaguchi Pref., Hase, A.; Miocene gastropods from Ginzan hot spring, N.E. Honshu, Hatai & Kotaka; Liassic pelecypods, Hayami, I. (1); Jurassic pelecypods from the N.E., Hayami, I. (2); Jurassic Pelecypoda, Hayami, I. (3); Pleistocene Mollusca from Atsumi Peninsula, Aichi Peninsula, Hayasaka, S.; Cenozoic palaeontology of

Hokkaido especially the Nayoro Basin and Tonbetsu lowland, Imanishi, S.; Miocene Mollusca from Hirotsaki city, Aomori Pref., Iwai, T.; Oligocene Mollusca, Kanno, S. (1); Miocene "*Pleurotomaria*" from Tochigi Pref., Kanno, S. (2); Jurassic ammonite-correlation study, Kobayashi, T. (3); Giant *Aturia* from the Karatsu coalfield, N. Kyushu, Kobayashi & Inoue; Study and application of molluscicides, Komiya, Y.; Mollusca of the Okinawa Is., Kuroda, T. (1); Tertiary pectinids from S.E. Hokkaido, Masuda & Sawada; Pleistocene *Batillaria* from South Kanto, Nagasawa, J.; Cretaceous *Pterotriconia* from Kyushu and Hokkaido, Nakano & Numano; Early and middle Triassic pelecypods from S.W. Japan, Nakasawa, K.; *Pecten* from the Pliocene of Niigata Pref., Noda, H.; Pleistocene molluscs from Tiba Pref., South Kantō, Ogose, S. (1) & (2); Thermal changes indicated by Pliocene and Pleistocene molluscs in the Bōsō peninsula, South Kantō, Ogose, S. (3); Systematic revision of terebrid fossils, Oyama, K. (2); Revision of Cenozoic Mollusca, Oyama, K. (5); Jurassic-Cretaceous boundary Mollusca, Sato, T. (3); New Jurassic-Cretaceous ammonites, Sato, T. (4); Faunas of the Miyazaki group, Shuto, T. (1); Conacean gastropods from the Miyazaki group, Shuto, T. (2); Mollusca from the Cretaceous/Tertiary in S.W. Kyushu, Takai & Matsumoto; Jurassic Mollusca from the Sakamoto-Tanoura area, Tamura, M. (1); *Eopinctada* from the Cretaceous of Kumamoto Pref., Tamura, M. (2); Late Triassic pelecypods from Shikoku, Tokuyama, A. (1); Neogene Mollusca from the Tokai region, Truchi, R. (1); Quaternary Mollusca from the Tokai region, Truchi, R. (2).

Korea.—Cambrian Mollusca from the Mun'gyong district, South Korea, Kobayashi, T. (2).

Malaya.—Habitats of limestone snails on Bukit Chintamani, Berry, A. J. (2); History of freshwater Mollusca of Malaya, Bogachev, V. V. (2); Stratigraphical revision of the Langkawi Islands, lists of molluscs included, Jones, C. R.; Streptaxidae genera *Huttonella* and *Sinoennea*, Jutting, W. S. S. v. B. (2); Additional new species and localities for gastropods, Jutting, W. S. S. v. B. (3); Triassic Pelecypoda from Pahang Province, Malaya, Tokuyama, A. (2).

Mongolia.—Devonian ammonites from the Great Khingan, Inner Mongolia, Chang, A.; *Polydesmia* horizon of the Ordovician, the genus *Ordosoceras*, Chang, Z.-D.; Lower Ordovician gastropods from Zhuozishan district, Yu, W. (1).

Philippine Islands.—Ecological control of *Oncomelania quadrasi* in the Philippines, Hairton & Santos; *Schistosoma japonicum* prevalence, Pesigan & Hairton; Jurassic ammonites from the Isle of Mindoro, Sato, T. (2).

Thailand.—Ordovician nautiloids, Kobayashi, T. (1); Jurassic ammonites from the Mae Sot region, Sato, T. (1).

AUSTRALIAN AND POLYNESIAN REGION

Australia.—Carboniferous molluscs from New South Wales, Campbell, K. S. W.; Western Australian Lower Cretaceous fossils from the Nanutarra Formation, Cox, L. E. (1); Permian pelecypods from E. Australia, Dickens, J. M. (1); *Platyleichum* in the Permian of Western Australia, Dickens, J. M. (2); New snail intermediate host of schistosome trematodes from New South Wales, Ewers, W. H.; Permian ammonoids, Glenister & Furnish; Mesozoic non-marine Mollusca from N. of South Australia, Ludbrook, N. H. (1); Tertiary *Berthelinia* from the Adelaide Plains Basin, Ludbrook & Steel; Carboniferous gastropods from Old Cannindah, Queensland, Maxwell, W. G. H.

New Zealand.—Miocene-Pliocene *Sectipecten*, Boreham, A. U. E.; Distribution of *Phenacohelia*, variation and ecology, Cumber, R. A.; Jurassic Mollusca from Kawhia, Fleming, C. A.; Molluscan distribution, zoning and check list, Powell, A. W. B.; *Cyrtora* a land mollusc of North and South Islands, Rees, R.; Stewart Island molluscs, Smith, E.; New records of *Paryphanta* from the Nelson Province, Townsend, J. I.; Albian ammonites in the Motuan stage in the Upper Awatere Valley, Vella, P. (2); Land Mollusca from Waitomo, Warren, P. (1); *Worthenia* n.sp. from the Trias of Southland, Waterhouse, J. B.; Cretaceous *Inoceramus* correlation of sediments, Wellman, H. W.

Pacific Islands.—Study of *Cypraea* from New Caledonia and French Polynesia, Bouge, L. J.; Tertiary molluscs from N.W. Viti Levu, Fiji, Charig & Nuttall; Collection of *Melanopsis* in New Caledonia, Morrison, J. P. E. (2); *Pyrgulifera* from New Caledonian Cretaceous, Rey, R.; Annotated checklist of New Caledonian land and freshwater snails, Solem, A. (1).

ETHIOPIAN REGION

Africa, General.—Mollusca of the *Biomphalaria* "tribe," Barbosa & Carneiro da Silva; *Limicolaropsis* monographic revision from Somalia, Abyssinia, Kenya, Uganda, the Congo and Tanganyika, Crowley & Pain (3); Bilharzia responsible for chronic ill-health, carried by snail vectors, Muller, R. (1).

Africa, Central.—New Achatinidae from the Congo, Crowley & Pain (1); Ammonites from Vonso, Congo, Sornay, J.

Africa, Eastern.—Jurassic and Cretaceous Trigonidae from S.E. Tanganyika, Aitken, W. G.; Morphology and taxonomy of *Biomphalaria pfeifferi* from S.E. Africa, Barbosa, Carneiro & Barbosa (2); New Achatinidae from Nyasaland, Crowley & Pain (1); *Burtoa nilotica* in Ethiopia, Crowley & Pain (5); Relict fauna of the Bandiagara plateau, Daget, J. (2); Additions to the molluscan fauna of Somalia, Forcart, L. (2); *Mutela bourguignati* developmental life history, from Lake Victoria and the Victoria Nile, Fryer, G.; Shell collecting in Zanzibar, Hirschmann, S.; Parasitological survey in Luapula Province, N. Rhodesia, McCullough & Friis-Hansen; Bilharzia and molluscs in the Tanga district of Tanganyika, Maclean, Webbe & Msangi; Freshwater snails from Lower Jubaland, Somalia, Mafi, M.; Neogene molluscan fauna from Tanga District, Tanganyika, Nuttall & Sealy; Use of molluscicides in Kenya, Teesdale, Hadman & Nguriathi; Biology and culture of *Crassostrea* in Mida Creek, Kenya, Van Someren & Whitehead; *Gonaxis* from the Usambara Mountains of N.E. Tanganyika, Verdcourt, B. (2); Affinities of Helicariionidae from Portuguese East Africa, Verdcourt, B. (3); East African Enidae, Verdcourt, B. (4); *Achatina fulica hamillei* Kavirondo District, Kenya, Verdcourt, B. (5); *Boysia boyssii* in Somali Republic, Verdcourt, B. (6); On Eastern African *Ptychotrema*, Verdcourt, B. (7); *Trichotaxon* in Kenya, Verdcourt & Polhill; Trials of Bayer 73 in Tanganyika, Webbe, G.

Africa, Southern.—Ecology of polluted inland waters in the Transvaal, Allanson & Gieskes; Mollusca of Mozambique, Azevedo, Medeiros, Faro et al.; Mollusca of the Chirinda forest, Mount Selinda, Bruggen, A. C. van (3); *Eurydesma* and *Peruwipira* from the Permian, Dickins, J. M. (3); Trials with Bayer 73 in Southern Rhodesia, Shift, C. J.

Africa, Western.—West African *Spathopsis* figs. and graphs, Daget, J. (1); Freshwater Mollusca from the National Park of Nickolo-Koba, Daget, J. (3); Cretaceous lamelibranchs from the Cameroons, Freneix, S.; Bil-

harziasis control in Senegal, Gretillat, S. (1); Palaeontological list from the Cuanza basin, Angola, Hoppener, H.; Devonian Tentaculitoidea from Zemmour, Mauritania, Lardoux, H.; Vectors of *Schistosoma* in Mauritania, Marill, P.-G.; Bilharziasis in Gambia, Ghana, Sierra Leone, Nigeria & British Cameroons, Odei, M. A. (1); Bilharziasis in French Guinea, Senegal, Ivory Coast, Togo and Dahomey, the Niger, Haute Volta and Soudan, Odei, M. A. (2); Suspected and proven hosts of *Schistosoma mansoni* in Liberia and Portuguese Guinea, Odei, M. A. (3); Cretaceous and Tertiary molluscs from Nigeria and the Cameroons, Reymont, E. A. (1); Fossil Mollusca from the region between Mocimedes and Porto Alexandre (Angola), Silva, G. H. da (1); Campanian ammonite from Barra do Dande, Angola, Silva, G. H. da (2); Miocene molluscs from S. Pedro da Barra and Farol das Lagoetas, Luanda, Angola, Silva & Soares; New *Chlamys* from the Miocene of Luanda, Angola, Soares, A. F.

Madagascar.—Tithonian ammonites, Collignon, M. (2); Desmoceratidae from the Cretaceous, Collignon, M. (3); New land molluscs, Haas, F.

NEARCTIC REGION

North America.—Cretaceous Binneyitidae from the Western Interior of the United States, Cobban, W. A.; New land snails from the southern United States, Hubricht, L. (4) & (5).

Alaska and Canadian Subregion.—Ammonites from the Seabee formation (Cretaceous) of N. Alaska, Cobban & Gryo; Note on molluscs introduced into British Columbia, Draycot, W. M.; List of species from Afognak and Sitkalidak Islands, Alaska, Eyerdm, W. J. (2); Fauna of the Middle Devonian Formosa reef limestone of S.W. Ontario, Fagerstrom, J. A. (1); Jurassic ammonites from Ellesmere Island to the Aklavik region of the mainland, Frebold, H.; Mollusca of Astray Lake, Labrador and Lac Aigneau, Ungava, Herrington, H. B. (2); New Jurassic ammonites from Alaska, Imlay, R. W. (1); Cretaceous megafossils from Northern Alaska, Imlay, R. W. (2); Muscle attachment impressions in Alaskan Cretaceous ammonites, Jones, D. L.; New Brunswick non-marine Mollusca, La Rocque, A. (2); Newfoundland non-marine Mollusca, a checklist, La Rocque, A. (3); Tertiary *Lituyapecten* in Alaska, Miller, D. J.; Ordovician Cephalopoda from the Ottawa-St. Lawrence lowland, Wilson, A. E.

North-East United States.—Oyster shell heaps of the Damariscotta River, Maine, Bradley, W. H.; Pleistocene Mollusca of the Castalia deposit, Erie Co., Ohio, Clark, A. L.; Pleistocene Mollusca, Franklin Co., Ohio, Cornejo, J.; Hatching of *Amnicola* from Geauga Co., Ohio, Davis, C. C.; *Banksia* from the Oligocene Lincoln formation near Porter, Washington, Durham & Zullo; Hinge teeth reversal in Ohio Sphaeriidae, Eggleston & Davis; *Byssocygon* redescribed from the Miocene of Yorktown, Virginia, Fagerstrom, J. A. (2); Land snails from the Patuxent estuary margin Maryland, Grimm, F. W. (2); Maryland—land snails from the coastal plain, Grimm, F. W. (3); Pleistocene Mollusca of the Jewell Hill deposit, Logan Co., Ohio, Mowery, D. H.; *Byssonychia* Ordovician of Cincinnati, Ohio, Pojeta, J., Jr.; Carboniferous Mollusca, Knox Co., Ohio, Root, Rodrigues & Forsyth; Distribution of shell bearing land snails in Ohio, Taft, C.; Occurrence of *Helix pomatia* L. at Plymouth, Mass., Turner, R. D. (1).

North-West United States.—New records of Wyoming Mollusca, Beetle, D. E. (1); Checklist of Wyoming recent Mollusca, Beetle, D. E. (2); Mollusca of the Big Horn Mountains, Wyoming, Beetle, D. E. (3); New nautiloid from the Eocene, Washington, Palmer, K. V. W. (1); *Hyolithes* from the Middle Cambrian Burgess shales

S.W. of Liberty and W. of Montpelier, Bear Lake Co. Idaho, Yochelson, E. L. (1); Permian *Omphalotrochus* in the north western states, Yochelson, E. L. (3).

South-East United States.—Cave faunas of Tennessee, Barr, T. C.; Record of fossil land snails from the Loess at Vicksburg, Mississippi, Conkin, J. E. & B. M.; Miocene molluscs from Jackson Bluff, Leon Co., Florida, DuBar & Taylor; Distribution records of land molluscs from Jacksonville, Florida and Savannah, Georgia, Hubricht, L. (1); Land snails from the Loess of Mississippi, Hubricht, L. (2); Exposure of South Florida snails (*Tropicores*) to *Schistosoma miracidia*, Leigh, W. H.; Additional note on ovoviviparous *Turritella*, Palmer, K. V. W. (2); Mollusca as indicators of a tethyan influence in the U. Eocene of Florida, Palmer, K. V. W. (4); Tennessee occurrence of *Corbicula fluminea* (Müll.), Sinclair & Ingram; *Liguus* in the Everglades, Solem, A. (3).

South-West United States.—Benthic invertebrates of the San Joaquin river near Antioch, California, Aldrich, F. A.; Carboniferous Mollusca from S.W. Elko Co., Nevada, Gordon & Duncan; Permian ammonoids from the Inyo Range, California, Gordon & Merriam; Additional locality records of slugs from South California, Gregg, W. O.; Jurassic ammonites from the W. Sierra Nevada, California, Imlay, R. W. (3); Pliocene molluscs from California, Peck, J. H.; Miocene and Pliocene Mollusca, Eastern Caliente Range, California, Repenning & Vedder; Fauna of Lake Bonneville, Roscoe, E. J. (1) & (2); Molluscs associated with ancient burials and middens, San Diego, California, Shumway, Hubbs & Moriarty; Triassic marine Mollusca from the Natchez Pass formation, N. W. Nevada, Silberling, N. J.; Paleocological study of Californian Pleistocene Mollusca, Valentine, J. W. (1); Molluscan biofacies of the Santa Barbara formation, California, Valentine, J. W. (2).

Central-North United States.—Ecology of grassland molluscs in E.C. Kansas, Basch, Bainer & Wilhm; Unionidae of Ottawa Co. Michigan, Heard, W. H. (1); Occurrence of *Pisidium henslowianum* (Sheppard) in Lake Michigan, Heard, W. H. (2); Ordovician *Billingsites* from Michigan, Kesting, R. V.; Quaternary molluscs from the Illinois valley region, Leonard & Frye; Analysis of Mollusca from shell middens at Haw Creek, Illinois, Matteson, M. R. (1); Unionidae of Fishery Bay, South Bass Island, Lake Erie, Stansbery, D. H.

Central-South United States.—Pleistocene land and freshwater molluscs from Byers, Clay Co., Texas, Allen & Cheatum; *Rumina decollata* from Abilene, Texas, Batts, J. H.; New records of land snails from Oklahoma, Branson, B. A. (1); Notes on Oklahoma slugs with faunal additions, Branson, B. A. (2); Gastropoda of San Patricio Co., Texas, Branson, B. A. (3); Gastropoda of Northern Louisiana, Branson, B. A. (4); Bottom fauna of Parvin Lake, Larimer Co., Colorado, Buscemi, P. A.; Mollusca of Chenier Plain, S.W. Louisiana, Byrne, LeRoy & Riley; Pleistocene Mollusca from Logan Co., N. Dakota, Clayton, L.; Pleistocene Mollusca from Houston, Texas, DuBar & Clopine; Terrestrial species reported in Louisiana and new records with localities and source of information, Dundee & Watt; Eocene *Athleta petrosa* from Texas, Fisher & Rodda; Description and classification of cephalopods from the Upper Cambrian of the Llano uplift in Texas, Flower, R. H. (1); New ammonoid genus from the Desmoinesian of Oklahoma, Furnish & Beghtel; Distribution of nautiloids in the Carboniferous of Arkansas, Gordon, M. Jr.; New *Strobilops* from the Pleistocene of the High Plains, Texas, Ho & Leonard; Carboniferous (Desmoinesian) Mollusca from S.W. Missouri, Hoare, R. D.; *Actinocamax* from the Upper Cretaceous of Kansas, Jeletzky, J. A.; Ecological relation-

ships between vegetation and land snails in Montana, Colorado and New Mexico, Karlén, E. J. (2); Cretaceous *Inoceramus* in Colorado, Kaufman, E. G.; New Cretaceous *Ringicula* from Huerfano Co., Colorado, Kaufman & Pope; Paleocene Mollusca from Tehuacana Creek, Texas, Kellough, G. R.; Pleistocene Mollusca from Meade County, Kansas, Miller, B. B.; Kansas—occurrence of *Sphaerium transversum* Say, Murray, H. D. (2); Texas Cretaceous fauna, Perkins, B. F.; *Pomatopsis lapidaria* in Louisiana, Sogandares-Bernal & Abdel-Malek; Louisiana—Hydrobiidae from Lake Pontchartrain, Solem, A. (4); Permian biota of Harvey and Sedgwick Co., Kansas, Tasch, P.; Chemical composition of Cretaceous molluscan shells from South Dakota, Turekian & Armstrong; Pleistocene Mollusca from S.E. North Dakota, Tutill, S. J.; Carboniferous orthocone from Oklahoma, Unklesbay, A. G. (1); Ordovician nautiloids of Central Texas, Unklesbay, A. G. (2); Cambrian *Cloudia butti* from Missouri, Zimmermann & Yochelson.

CENTRAL AMERICAN REGION

Central America.—Larval forms of mussels in Central and South America, Bonetto, A. A. (3); Pomatiasid land snails, Solem, A. (5); Miocene Mollusca from Costa Rica, Woodring & Malavassi V.; Cretaceous ammonites from the Gulf Coast, Young, K. (2).

Mexico.—Triassic Mollusca from Sonora, Alencaster de Cserna, G.; Cretaceous Mollusca of N.W. Baja California, Allison, E. C. (2); Mollusca from La Playa site occupied ca. A.D. 800-1100, Sonora, Drake, E. J. (2); New land molluscs, Haas, F.; Cretaceous *Ezogyra* from the Ididura formation, Tlahualilo de Zaragoza, Durango, Kellum & Shubak; Triassic Belemnoides from Sonora, Miller, H. W.; Cretaceous fauna of North Mexico, Perkins, B. F.; Cretaceous ammonite succession of the Gulf Coast and Mexico, Young, K. (1).

West Indies.—Pleistocene Mollusca from St. Kitts and St. Eustatius, Leeward Islands, Altuna, C. O. v. R. (1); Puerto Rico—on the Xanthonychidae, Baker, H. B. (2); Puerto Rican Pupillids and Clausilids, Baker, H. B. (4); Camaenidae of Puerto Rico, Baker, H. B. (5); Cretaceous rudists and associated faunas of Cuba, Chubb, L. J.; Impressions of Oxfordian ammonite soft parts from Viñales, Cuba, Clemencia de la Torre; Land and freshwater molluscs of Caicos, Turks, Ragged Islands and Cay Sal Bank Islands, Bahamas, Clench, W. J. (2); Collecting in Haiti, Eyerdam, W. J. (1); Movements of *Australorbis* in a stream in Puerto Rico (El Toro Creek, Bayamón), Radke & Ritchie; Control of *Australorbis glabratus* in Puerto Rico, Radke, Ritchie & Ferguson; Cayman Islands, occurrence of *Orthalicus undatus jamaicensis* (Pilsbry), Rehder, H. A. (2).

SOUTH AMERICAN REGION

South America.—Mollusca of the *Biomphalaria* "tribe," Barbosa & Carneiro da Silva; Glochidia of Hyriinae in S. American waters, Bonetto, A. A. (2); Larval forms of mussels in South and Central America, Bonetto, A. A. (3).

Argentina.—*Ampullaria*, Bachmann, A. O. (1); MnO₂ in the water at the mouth of the R. Paraná and its effect on Mollusca, Bachmann, A. O. (2); *Diplotodon* glochidia from the Paraná river, Bonetto, A. A. (1); Ecology and distribution of freshwater pearl mussels, Bonetto, A. A. (4); *Westonoceras* from the Ordovician of San Juan, Borrello, A. V.; *Diplotodon*, Castellanos, Z. A. de (2); Early Tertiary Valvatidae of South America and a new species from Argentina, Parodiz, J. J. (1); New and

little known *Phycia* from the Cretaceous of Patagonia, **Parodis, J. J. (2)**; *Meiodesa macroides* from Monte Hermoso, **Rapoport, E. H.**

Brasil.—Cretaceous ammonoids from Sergipe, **Beurlen, K. (1)**; Carboniferous pelecypods from Itaporanga, São Paulo, **Mezallira, S.**; Supposed Pliocene Pebas beds of the upper Jurua River, **Simpson, G. C.**

Chile.—Ecology of freshwater molluscs, **Stuardo, J. (3).**

Colombia.—Tertiary molluscs from Goajira Peninsula, **Olsson & Richards.**

Paraguay.—Devonian and Silurian Mollusca, **Wolfart, R.**

Uruguay.—Use of molluscs as decoration, and in rituals, also for economic purposes by primitive peoples, **Bonino de Languth, V.**; Holocene malacofauna, **Figueras [Monfort], A. (4)**. New species of *Cyclodontina*, **Klaipenbach, M. A. (1)**.

Venezuela.—Studies on Planorbidae, **Hubendick, B.**

(b) MARINE ARCTIC

Arctic Seas.—Mollusca of Afognak and Sitkalidak Islands, Kodiak group, Alaska, **Eyerdam, W. J. (2)**; Plankton of Iceland-Faroe Ridge, **Fraser, J. H. (2)**; Pteropoda from West Greenland waters, **Kramp, P. L.**; *Lithypacten* from Alaska, **MacNeil, F. S.**; Rare and new species of Mollusca off the coast of Iceland, **Óskarsson, I.**; Recent and fossil *Macoma baltica* on the shore of the Laptev Sea, Russia, **Troitsky, S. L.**

NORTH TEMPERATE

Western Atlantic.—A new *Rissoella* from the Western Atlantic (Bimini, Bahama Ids.), **Robertson, R. (2)**; A second Western Atlantic *Rissoella* and list of species, **Robertson, R. (3)**; Herbivorous Mollusca from Bimini Bahama Islands, **Robertson, R. (4)**.

Western North Atlantic.—Eastern Canada shallow water Mollusca, **Bousfield, E. L. (1)**; Marine molluscs from the Bay of Fundy, **Bousfield, E. L. (3)**; Biology of early stages of *Mercenaria* in Little Egg Harbor, New Jersey, **Carriker, M. R. (2)**; Massachusetts: early records of *Littorina littorea*, **Dexter, R. W. (2)**; *Ilyanassa obsoleta* from Cape Ann, Massachusetts, **Dexter, R. W. (4)**; Gastropod population changes (1918–1959) in the salt fork of the Big Vermilion river, Illinois, **Dexter, R. W. (5)**; Structure and energy flow in a *Modiolus* population near Sapelo Island, Georgia, **Kuenzler, E. J. (1)**; Rehabilitation of disease-depleted oyster populations off Prince Edward Is., **Logie, Drinnan & Henderson**; *Eupleura caudata* in the York River, Virginia, **MacKenzie, C. L. (2)**; Effects of pollution in Biscayne Bay, Florida, **McNulty, J. K.**; Opisthobranchia from North Carolina, **Marcus, Er. (2)**; Oyster farming around Canada and Nova Scotia, **Medcof, J. C.**; Benthic shoal water molluscs from tideswaters of Somerset Co., Maryland, **Pfitzenmeyer, H. T.**; Effects of flatworms on oyster spat in Massachusetts, **Provenzano, A. J.**; Oysters in Delaware waters—history and geology, **Ruster jr., C. N.**; Bermudan Pleurotomariidae, **Turner, R. D. (2)**; Beaufort area oyster beds, North Carolina, **Wells, H. W.**; North Carolina *Odostomia (Chrysalida) dianthophila* sp. nov., **Wells, H. W. & M. J.**; Benthic fauna of Georges Bank off New England, **Wigley, R. L.**

Eastern North Atlantic.—British species of *Thracia*, distribution maps and keys, **Allen, J. A. (1)**; Rare or curious molluscs collected off Arcachon, **Amanieu & Cazaux**; Mussel cultivation techniques, **Andreu [Morera], B. (2)**; Oyster culture in the Rio de Vigo, Atlantic coast of

Spain, **Andreu Morera, B. (3)**; *Venus striatula* biology from Kames Bay, Millport, **Ansell, A. D. (1)**; New family record of nudibranchs from Traeth Bychan, Anglesey, **Boaden, P. J. S.**; Benthic populations off Roscoff and their associations and relationships, **Cabioch, L.**; Molluscan predators on the coasts of Normandy, **Fischer, P.-H. (4)**; *Littorina saxatilis* variations from the Iberian peninsula, **Fischer-Piette, Gaillard & Jouin**; *Setia inflata* new to British waters, Kames Bay, Millport, **Fretter & Pail**; Pteropods and heteropods caught in plankton nets off Morocco, **Furnestin, M. L.**; Plankton survey around the British Isles 1959, **Glover & Barnes**; On the census of marine Mollusca, **McMillan, N. F. (3)**; Distribution and food of the Nudibranchia of the S. of the Isle of Man, **Miller, M. C.**; Breeding of *Patella depressa* at Trevone, N. Cornwall, **Orton & Southward**; Calvados, intertidal molluscs, **Plessis, Y.**; *Zirfaea crispata* in Orkney, **Rendall, R.**; *Littorina obtusata* at Roscoff, **Sacchi, C. F. (2)**; Contribution towards a planktonic atlas, **Vane, F. R.**; *Calyptrea chinensis* from opposite Misery Point, Yealm Estuary Plymouth, **Wyatt, H. V. (1)**.

East Pacific.—Results of the 1955 to 1959 Pismo clam censuses, **Baxter, J. L.**; Reproductive cycles of invertebrates from the West Coast of America, **Giese, A. C.**; West American species of *Berthelinia*, **Keen & Smith**; New genus *Plathymenia* family Neomeniidae, **Schwabl, M. (1)**; A new Aplousobranch, **Schwabl, M. (2)**.

North Pacific.—Pelagic Mollusca, **Tokioka, T.**

Western North Pacific.—Five new Japanese gastropods, **Azuma, M. (1)**; Six new Japanese marine gastropods, **Azuma, M. (3)**; Shelling at Okinawa, **Glover, P. [W.] (2)**; Gastropod fauna of Akkeshi Bay, **Habe, T. (1)**; Four new bivalves from Japan, **Habe, T. (3)**; New *Katayama* from the Ryukyu Archipelago, **Habe, T. (9)**; New species of Japanese marine shells, **Habe, T. (10)**; Four new Japanese *Cancellaria*, **Habe, T. (11)**; Japanese opisthobranch veligers, **Hamatani, I. (1) & (2)**; Mollusca found alive on Tokyo Bay beach after a typhoon, **Horikoshi, M. (2)**; New forms of Japanese Melanians, **Kajiyama & Habe**; Fouling communities in Ago Bay, **Kawahara, T.**; Marine fouling communities in Ago Bay, Mie Prefecture, **Kawahara & Iisima**; Molluscs of Kyushu, west coast, **Kawakami & Habe**; Three new *Notacmea* species, **Kira, T.**; Triphoridae from Amami Islands, figs. new species, **Kosuge, S. (1)**; Amami Islands Triphoridae, **Kosuge, S. (2)**; Mollusca of the Okinawa Is., **Kuroda, T. (1)**; New Japanese Naticidae, **Kuroda, T. (2)**; On Japanese *Microglyphis* and *Ringiculospingia*, **Kuroda, T. (3)**; Check list and bibliography of recent marine molluscs of Japan, **Kuroda & Habe**; New molluscs from Southern Kii, Japan, **Kuroda & Ito**; A new Japanese *Scintilla*, **Kuroda & Taki**; Boring bivalves, Kagoshima Prefecture, **Mawatari, Kitamura & Inaba**; A new *Solariella* from Japan, figs., **Okutani, T. (1)**; Notes of *Carinaria*, **Okutani, T. (2)**; Larvae of *Pinna atrina japonica* in Ago Bay, **Ota, S.**; New Japanese Terebridae, **Oyama, K. (1)**; Biogeographical notes on Japanese Terebridae, **Oyama, K. (4)**; Biology of *Aplysia juliana* particularly with respect to its feeding on *Undaria* in Kumamoto, Mie and Aichi Prefectures, **Saito & Nakamura**; Development of *Septoteuthis lessoniana* from Kyushu and Ryuku Is., **Sang & Ohshima**; Bottom characters of pearling beds in the Arafura Sea, **Takemura & Sagara**; Molluscan shells of Onomichi Channel, **Taki, I. (1)**; Plankton, Kyushu area, **Tanaka, Irie, Iisuka & Koga**; Heat sensitivity in *Mytilus* from the Sea of Japan and Sea of Okhotsk, **Zhirimunskii & Pisareva**.

Eastern North Pacific.—Clipperton Island revisited, **Allison, E. C. (1)**; Zooplankton in the winter 1958/59, **Beklemishev, C. V.**; A new *Capulus* from the Gulf of

California, Burch, J. Q. & R. C.; New species from the Gulf of California, Campbell, G. B. (2); Variant of *Cypraea annettae* from the Gulf of California, Cate, C. N. (4); Monterey Bay occurrence of *Hemitoma bella*, Chivers, D.; Quantitative distribution of deep sea bottom fauna, Filatova & Levenstein; Large species of *Terebra*, Hanna & Hertlein; A new species of *Siliqua* from dredgings off California and Alaska, Hertlein, L. G. (2); Gulf of California—a collecting trip's highlights, Keen, A. M. (2); Southern Californian opisthobranchs, Lance, J. E.; Zooplankton studies at Ocean weather station "P" in the N.E. Pacific, McAllister, C. D.; Marine molluscs from Los Angeles Bay, Gulf of California, McLean, J. H. (3); *Lituyapecten* from California, MacNeil, F. S.; Californian opisthobranchs, a monographic review, figs., Marcus, Er. (1); Relationships of marine organisms to water temperatures 1957-1959, Radovich, J.; Deep water Mollusca from the Gulf of California, Shasky, D. R. (3); New chitons from the Panamic Province (Gulf of California and Panama), Smith, A. G. (5); Mitridae of the Eastern Pacific, Sphon, G. G.; Nomenclature of the Californian nudibranchs, Steinberg, J. E.; New endoparasitic gastropods from Puget Sound, Washington, Tikasingh, E. S.

Baltic Sea.—*Mytilus edulis* respiration, Erman, P.; Reproduction of *Mytilus edulis* in the S.W. Archipelago, Finland, Heilonen, A.; Zooplankton study near Rügen, Schwarz, S.; Investigations on populations of *Macoma baltica* in Finnish coastal waters, Segerstråle, S. G.; Characteristics of the bottom fauna in the E. Baltic, Shurin, A. T.

Black Sea.—*Rapana beozar* reproduction, Chukhchin, V. D. (1); Growth of *Rapana beozar* in Sebastopol Bay, Chukhchin, V. D. (2); Influence of bottom organisms on sediments, Glagoleva, M. A.; Nudibranchia of the eastern Black Sea, Gomolu, M.-T.; Variations of *Cardium edule*, Grossu, A. V.; Mollusca of the Varna Sea, Kaneva-Abadjieva, V.; Zoobenthos of the Bulgarian Black Sea coasts, Kaneva-Abadjieva & Marinov; Different salinity conditions in the Black, Azov, Caspian and Aral Seas related to the morphology of spermatozoa of bivalves living in these conditions, Karpevich, A. F.; Bottom fauna quantitative distribution, Nikitin, V. N.; Biocoenoses in the Black Sea part of the Taman peninsula slope, Petrov, K. M.; Ability of Mollusca to accumulate strontium-90, cesium-137 and cerium-144, Polikarpov, G. G.; Settling of *Teredo* in the Azov Sea, Ryabchikov, Soldatova & Esakova; Opisthobranchia from Trabzon, S.E. coast of the Black Sea, Swennen, C.; List of Mollusca, Valkanov, A.; Surface pelagic biocoenosis, Zaitzev, Y. P.; Effect of increased temperature on mussels, Zhirmunskii, A. V.

Gulf of Mexico and the Caribbean.—A new *Colubraria* from off C. Haro, Guaymas, Mexico, figs., Campbell, G. B. (4); Zonation of *Donax* on Clearwater Beach, Florida, Edgren, R. A.; *Melongena corona* from Florida Gulf coast, Hathaway & Woodburn; *Terebra saaleana* from the intertidal zone on the Gulf of Mexico beach of Padre and Mustang Islands, Texas, Kornicker, L. S.; Recovery of *Neopilina* in the Cedros Trench, Mexico, Menzies & Robinson; Herbivorous Mollusca from S. Florida, Robertson, R. (4); Caribbean *Vasum* species, Shuster & Bode; Check list of Mollusca of northern Florida Bay and adjacent estuaries, Tabb & Manning; Marine shells of Water Island, Virgin Is., Weber, J. A.

Mediterranean Sea.—Infralittoral molluscs from Corsica, [Bellan] Santini, D. (2); Benthic populations from the region off Bonifacio, Corsica, Bellan, Molinier & Picard; Littoral molluscs from the Quaternary of the Sea of Marmara in the region of Yalova, Chaput, G.; Biometrical

analysis of a *Mytilus galloprovincialis* population in Venice lagoon, Génovèse, S.; Migrations of Mediterranean cephalopods, Mangold-Wirz, K.; Economic importance of *Eledone* off Blanes, Spain, Morales [Seguí], E. (1); Benthic biocoenoses in the Mar Grande, Gulf of Taranto, Parenzan, P. (1); Mollusca of the Ionian Sea, Parenzan, P. (2); Deep sea associations off the coast of Provence, France, Picard, J.; Ecology of *Mytilus galloprovincialis* in Lake Fusaro (Naples), Rensoni & Sacchi; Gorgonian association of faunas in the Gulf of Génès, Rossi, L.; Opisthobranchia from the Bay of Antalya & Bay of Mersin, S. coast of Turkey, Swennen, C.; Benthos of the Grado and Marano Lagoons, Vatova, A. (1); Comparative anatomy of *Aplysiella* from Toulon and Castiglione, Vicente, L.; Vertical distribution of zooplankton around the Islands of Mijet, Adriatic, Vučetić, T.

North Sea.—*Littorina saxatilis* distribution on Whitstable shore, Thames Estuary, Berry, A. J. (1); Mollusca of the north Brattholmen stone-coral reef near Bergen, Burdon-Jones & Tams-Lyche; *Pneumodermopsis paucidens* first record from the North Sea, Cooper & Forsyth; Quality of oysters in the Oosterschelde in 1959, Drinkwaard, A. C.; *Mytilus edulis* respiration, Erman, P.; Zooplankton in the northern North Sea, Fraser, J. H. (1); Population study of *Buccinum* at Whitstable, Kent, Hancock, D. A.; Larvae and spatfall of oysters in the Oosterschelde at Yersche Bank, Korrings, P.; Spread and distribution of *Teredo* in the Kiel Canal, Schütz, L.; *Cardium lamarchi* in Norwegian waters, Talkki, P.; Contribution towards a planktonic atlas, Vane, F. R.; Bottom fauna of the E. German Bight in 1959, Ziegelmeier, E. (1).

TROPICAL AND SUBTROPICAL

East Atlantic.—Marine fauna of Ghana, Bassindale, R. Response of *Littorina* to disturbance at Christiansborg, Ghana, Evans, F.

South Atlantic.—Abyssal molluscs, Clarke, jr. A. H. (2).

Western South Atlantic.—*Buccinanops* nov. sp. from Uruguay and Brazil, Klappenbach, M. A. (2); *Hastula cinerea* from Ubatuba to Cananéia, São Paulo, Marcus, Ev. & Er. (1); *Coryphellina rubrolineata* from Santos Bay, Ilha das Palmas, Marcus, Ev. & Er. (4); Malacozology of the Valdéz peninsula, Chubut Prov., Pinto, M. G.; Occurrence of *Marginella (Volvarina) patagonica* von Martens in Uruguayan waters, Ureta, E. H.

Indian Ocean.—Seychelles Islands cones, Anon. (22); Fauna of the Vellar estuary, Balasubrahmanyam, K.; *Xylophaga* from the Bay of Bengal, Ganapati & Lakshmana Rao; Spawning and larval development of species of *Conus*, Kohn, A. J. (2); Microecological factors in oyster epizootics at Karachi, Laird, M.; Marine fauna of the Gulf of Kutch studied at Port Okha, Pirotan Island, Byet Dwarka and Sika, Menon, Datta Gupta & Das Gupta; New marine borer from West Bengal, Rajagopalasingar, A. S.; Wood boring *Martesia* nitrogen content from Madras, Srinivasan, V. V. (1); Study of Indo-west-Pacific plankton, Wickstead, J. H.

SOUTH TEMPERATE AND SUBANTARCTIC

South African Waters.—*Bullia digitata* and *B. laevisima* from sandy substrata of Port Elizabeth (east coast) to Lambert's Bay (west coast), Brown, A. C.; New variety of South African *Pecten*, Bruggen, A. C. v. (1); On S. African *Ischnochiton*, Orr, V.; Sea shells of Dar es Salaam, Sperry, J. F.; Cowries of the east African coasts, Verdcourt, B. (8).

Central Pacific.—New subspecies of *Cypraea tigris* from Hawaii, Cate, C. N. (3); Marine Mollusca of the Line Islands, Jewell, H. G. jr. (1); On Hawaiian *Cypraea*,

Kay, A. (5); New opisthobranch from Hawaii, Kay, A. (6); *Cypraea* of the Hawaiian Islands, Kay, A. (7); Development of *Conus*, Kohn, A. J. (1); *Conus* in Hawaiian waters, Kohn & Weaver (1)-(6).

South Eastern Pacific.—Mollusca of the tropical eastern Pacific, Panama to Peru, Olsson, A. A.; Notes on little known Panamic shells, Shasky, D. R. (4); Distribution of Mytilidae in Chilean waters, Stuardo, J. (2).

South Western Pacific.—*Sigapattella spadicea* sp. nov. from Kapiti Island, Boshier, D. P.; New opisthobranchs from New South Wales, Burn, R. (1); *Ceratosoma* from Victorian waters, Burn, R. (2); New goniodorid from S.E. Australia, Burn, R. (3); Shell collecting on the Gt. Barrier Reef, Cameron, R.; Philippine waters as a locality for *Vezillum utraque* Melville, Cate, J. M. (1); New *Vezillum* from the Philippine Islands, Cate, J. M. (2); New subspecies of *Vezillum* from Balabac, Philippine Islands, Cate, J. M. (4); Scallop fisheries of Tasman Bay 1959-60, Choat, J. E.; New shells from the east coast of Australia, Garrard, T. A.; Mollusca of Manukau Harbour, Auckland, Hulme, S. G.; *Bankia australis* infestation of wood near Cape Campbell, Cook Strait, New Zealand, Hurley, D. E.; Fiji collecting, Jennings, A.; New species and new records, also a new genus from Australian waters figs., McMichael, D. F. (1); Heron Island molluscan fauna, Moulton, J. M.; Teredinidae from the Sunda Islands and New Guinea, Roch, G. F.; Borneo cones, Saul, M. (1); Shell hunting in the Bay of Plenty—East Cape Area, Seager, L.; Swains Reef, Queensland, *Haliotis* and *Stomatella*, Talmadge, R. R. (3); New species of South Australian cowry, Trenborth, W. P.; Australasian Typhinae, Vella, P. (1); New marine records from the Bay of Plenty, Warren, P. (2).

ANTARCTIC

Antarctic Seas.—Malacofauna of the Argentine Antarctic, Carcelles, A. R.; Halobiotic microcommunity living on algae in the intertidal zone of the Antarctic, Castellanos, Z. J. A. de (1); Plankton and marine fouling at Heard Island, Ealey & Chittieborough; Antarctic Mollusca, text map, Fischer, H. J. L.; An Antarctic chiton from Melchior Island, Smith, A. G. (4); Two new eledonids, Taki, I. (2).

(B) Geological

Quaternary.—Fauna of the Taz strata, Yenisei Valley USSR, Arkhipov & Alekhinskaya; Mollusca from Greece, Aubouin, J.; Mollusca from the Apscheron peninsula, Russia, Burchak-Abramovich & Dzshafarov; Land shells as a critical factor in the dating of post-Pleistocene deposits, Burchell, J. P. T. (1) & (2); Littoral molluscs from the terraces of Tuzla, at Yalova, Chaput, G.; Tritonidae from Majorca, Cuervo Barceló, J.; Cenozoic Mollusca from Czechoslovakia, Fejfar, Kneblová, Dobnal & Lošek; Molluscan fauna of Uruguay, Figueiras (Monfort), A. (4); Volutacea in the foreign collections of the "Institut Royal des Sciences naturelles de Belgique," Gilbert, M. (1); Conacea, in the collection of the Royal Natural Sciences Institute, Belgium, from other countries, Gilbert, M. (2); Gastropods from sediments of L'Isle-sur-Sorgue, Vauluse, France, Granier, J. (2); Post glacial Mollusca from the Breitenberg Cave, Gossewainstein, Hasslein in Brunner, G.; Pyramidellidae systematics and ecology, Black Sea basin, Ilyina, L. B. (1); Cenozoic palaeontology of Hokkaido, Imanishi, S.; Dwarf form of *Strombus bubonius* from Spain, Imperatori, L.; Mollusca from the Dnepr terraces, Russia, Ivanova & Popov; Bronze age molluscan deposits from France, Jayet, A.; Mollusca from the Mediterranean coast of Morocco, Jeannette, Joly & Maurer; Significance of

freshwater Mollusca in the study of the Russian Holocene, Kozlovskaya, L. S.; Loess molluscs from Czechoslovakia, Kukla, Lošek & Záruha; Non marine Mollusca from the Last Glaciation period, Gloucestershire, Large & Sparks; Interglacial boreal transgressions in the northern U.S.S.R. correlated with the Eemian of Western Europe, Lavrova, M. A.; Wisconsinian molluscs from Illinois, Leonard & Frye; Mollusca from the settlement "Zámček" in S. Slovakia, Lošek, V. (1); Mollusca of freshwater limestones from Mělník, Czechoslovakia, Lošek, V. (2); Interglacial Mollusca from Czechoslovakia, Lošek, V. (10) (12) & (28); Molluscan lists from Háj near Turňa Czechoslovakia, Lošek, V. (11); Interglacial Mollusca from Czechoslovakia, Lošek & Kneblová; Travertine Mollusca from Czechoslovakia, Lošek & Tyráček; Mollusca from Velká Kobylanka near Hranice, Czechoslovakia, Lošek, Tyráček & Fejfar; Holocene non-marine Mollusca from the Estuarine clays of N.E. Ireland, McMillan, N. F.; Molluscan fauna of the Azov-Black Sea basin, Nevesskaya & Nevessky; Mollusca from Jijia, Roumania, Obreja, A.; Revision of Mollusca from Japan, Oyama, K. (5); Calabrian outcrop containing *Cyprina islandica* near Parma, Italy, Pelosio, G.; *Venus gallina* biometric study, Porta, J. de; Mollusca of Majorca, Rullán, J. B.; Paleontology of the Dôme de La Mure France, Sarrot-Reynaud, J.; Zolborz interglacial Mollusca from Warsaw, Skompski & Slowanski; Ecological interpretation of non-marine Mollusca, Sparks, B. W.; Non-marine Mollusca from the central Sahara, Sparks & Grove; Ice age oyster beds from the Del-Mar-Va peninsula, Shuster jr., C. N.; Mollusca from the Tokai region, Japan, Tsuchi, R. (2).

Pleistocene.—Molluscan freshwater and land fauna from Texas, Allen & Cheatum; Mollusca from the Leeward Islands, Altena, C. O. v. R. (1); On the type locality of *Trigoniocardia panis-sachari*, Altena, C. O. v. R. (4); Mollusca of the Isle of Karpathos, Anapliotis, K. (2); Mollusca from the Haute-Garonne, France, Astre, G. (2); Mollusca of the Castalia deposit, Erie Co., Ohio, Clark, A. L.; Wisconsin Mollusca from ice-contact deposits, N. Dakota, Clayton, L.; First record of three land snails from Mississippi, Conkin, J. E. & B. M.; Mollusca of the Souder Lake deposit, Ohio, Cornejo, J.; *Psidium* fossil and recent at Upton Warren, Worcs., Dance, S. P.; Late Pleistocene Mollusca from Texas, DuBar & Clopine; Mollusca of the Atsumi Peninsula, Aichi Prefecture, Japan, Hayasaka, S.; Kansan to Wisconsinian deposits of *Strobilopsis* from the High Plains of the White River Area, Texas, Ho & Leonard; Mollusca of the Russian Platform and Pre-Urals, Kirilina, S. V.; Molluscan fauna of Tihany, Hungary, Kroplopp, E.; Interglacial Mollusca and their use in checking mammalian chronologies, Kurtén, B.; Quantitative methods for the study of non-marine Mollusca, La Roche, A. (1); Molluscan fauna of Moravany, Czechoslovakia, Lošek in Ambros, Lošek & Prošek; Mollusca from Czechoslovakia, Lošek, V. (3) & (7); *Vertigo pseudosubstriata* from Czechoslovakia, Lošek, V. (9); Mollusca from Chlupáč-Hohle Bohemia, Lošek, V. (13); *Gastrocopta* from Czechoslovakia, Lošek, V. (19); *Monachoides umbrosa* from Czechoslovakia, Lošek, V. (20); Mollusca from Sicily, Malatesta, A.; Late Pleistocene molluscs from Meade Co., Kansas, Miller, B. B.; Molluscan fauna of the Jewell Hill deposit, Ohio, Mowery, D. H.; *Batillaria multififormis* in South Kantō, Japan, Nagasawa, J.; Mollusca of the Zizōdō sand and Yabu gravels, Japan, Ogose, S. (1); Mollusca from Tiba Pref., South Kantō, Japan, Ogose, S. (2); Thermal changes indicated by molluscan fossils in the Bôdô peninsula, Japan, Ogose, S. (3); Japanese terebrid fossils, a systematic revision, Oyama, K. (2); Mollusca of some localities in the vicinity of Brno, Moravia, Petržok,

J. (1) & (3): Loess Mollusca from near Piešťany, W. Czechoslovakia, **Prošek & Lošek (2):** Marine Mollusca, Italy, **Ruggieri, G.:** Post-glacial molluscs from Apethorpe, Northamptonshire, **Sparks & Lambert:** Freshwater Mollusca from the Oka river, Tula region, U.S.S.R., **Starobogatov, J.:** Mollusca from S.E. North Dakota, **Tuthill, S. J.:** Paleogeological study of Californian Mollusca, **Valentine, J. W. (1):** Environmental interpretation of marine species, **Valentine & Emerson:** Freshwater Mollusca from China, **Wang, S.**

Cainozoic.—Mollusca from Asia, **Martinson, G. G. (1).**

Pliocene.—Mollusca from the isle of Karpathos, **Anapliotis, K. (1):** Common scaphopods from Piacenza Italy, **Caprotti, E.:** Mollusca of the Sannohe Group, Japan, **Chinzei, K.:** Limnocardids from the subsoil of Barcelona similar to those of the Llobregat valley, **Gillet & Vicente:** Mollusca from the Várbläu and Praha valleys, Roumania, **Hanganu, E.:** Mollusca from Yugoslavia, **Jenko, K. (2):** Mollusca of the Russian platform and Pre-Urals, **Kirilina, S. V.:** *Pecten* from the Haizume formation, Japan, **Noda, H.:** Thermal changes indicated by molluscan fossils in the Bósó Peninsula, Japan, **Ogose, S. (3):** Mollusca from the Ohlson ranch formation, California, **Peck, J. H.:** Mollusca of California, **Repenning & Vedder:** Marine Mollusca, Italy, **Ruggieri, G.:** Freshwater Mollusca from Dumfriesshire, **Shillitoe, J. S.:** Supposed Pliocene Pebas beds of the Upper Juruá River, Brazil, **Simpson, G. G.:** Mollusca of Castel Verrus, Italy, **Zappi, L.**

Tertiary.—Mollusca of S.W. Armenia Palaeogene deposits, **Aslanyan, P. M. (1):** Mollusca of the Mürtztal Mts., Austria, **Cornelius, H. P.:** Oyster fauna from Turkmenia SSR Palaeogene deposits, **Dmitriev, A. V. (1):** Comparison of Japanese marine molluscs from the Poronai formation with those from the W. American Tertiary, **Durham & Sasa:** Mollusca from Germany, **Gramann, F.:** Characteristic molluscan marine fauna of West Europe, **Gripp, K.:** *Aturia* from North Kyushu, **Kobayashi & Inoue:** Mollusca from Kamchatka, U.S.S.R., **Krishtofovich & Ilyina (1) & (2):** Marine molluscan Palaeogene deposits in Western Siberia, **Lipman, R. K.:** On the Tertiary types of R. Tate, families Nuculidae and Nuculanidae, figs., **Ludbrook, N. H. (2):** *Berthelinia* from South Australia, **Ludbrook & Steel:** Pectinids from S.W. Hokkaido, Japan, **Masuda & Sawada:** New subgenus of the Corbulidae, **Merklin, R. L. (1):** *Lithophaga* from Ferghana, U.S.S.R. Palaeogene deposits, **Merklin, R. L. (2):** *Lituyapecten* in Alaska, **Miller, D. J.:** Oysters from Kashgaria, U.S.S.R. Palaeogene deposits, **Mirkamalova, S. H.:** Mollusca from Goajira Peninsula, Colombia, **Olsson & Richards:** Mollusca of deep bore holes in Croatia, **Ožegović, F.:** On Valvatidae of South America and a new species, **Parodiz, J. J. (1):** Mollusca from Nigeria and the Cameroons, **Reymont, E. A. (1):** Evolution of Mollusca in the Tertiary period, **Russell, L. S.:** Conacean gastropods from the Miyazaki Group, Japan, **Shuto, T. (2):** Study of molluscan fossil remnants from France, **Titier, A.-M.:** Mollusca from Western Siberia, **Turbina, A. S.:** Australasian Typhinae, **Vella, P. (1):** Fauna-complexes of the Central Pre-Caucasus, U.S.S.R., **Volkova, N. S.**

Miocene.—*Chlamys* from the Neogene of Granada, Spain, **Aguirre, E. de:** *Gibbula sylviae* structural changes during growth, **Amitrov, O. V.:** Mollusca from the Crimea and Caucasus, U.S.S.R., **Andrusov, N. I. (2):** Sarmatian fauna of the Black Sea region, **Andrusov, N. I. (3):** Mollusca from the Black Sea and Caspian Sea regions, Russia, **Andrusov, N. I. (4):** Mollusca of the Caspian region, Russia, **Andrusov, N. I. (5):** Mollusca from Russia,

Andrusov, N. I. (6): Mollusca of the Kerch peninsula, Russia, **Andrusov, N. I. (7):** Konkak horizon Mollusca from Russia, **Andrusov, N. I. (8):** Mollusca from Greece, **Aubouin, J.:** New and little known lamellibranchs from the Chokrask deposits, Georgia, Russia, **Baghdasaryan, K. G.:** Helvetian fauna of the Börzsöny Mts., **Báldi, T.:** Aquitanian molluscs from the Carpathian basin, **Báldi, Kecskeméti & Nyíró:** Pannonian Mollusca from Lake Balaton region, **Bartha, F.:** *Neomnigenia* from the Kuznetz deposits of the Kuz basin, Russia, **Betekhtina, O. A.:** Sarmatian Mollusca of Hungary, **Boda, J.:** Cardids from the marine deposits of Asia Minor and the Caspian Sea, **Bogachev, V. V. (1):** New *Sectipecten*, New Zealand, **Boreham, A. U. E.:** Neogene Mollusca of the Loire, France, **Brebion, P. (1):** Redonian Mollusca of western France, **Brebion, P. (2):** Helvetian Mollusca from Pontevoy, France, **Buge & Calas:** Mollusca from Fiji, **Charig & Nuttall:** Spanish micropaleontology and ecology, **Colom, G. (1):** Helvetian *Chlamys* from Spain, **Crusafont Pairo, M.:** Burdigalian Mollusca from Czechoslovakia, **Ctyroky, P. (1):** Aquitanian Mollusca from Czechoslovakia, **Ctyroky, P. (2):** Molluscan developmental history in the Neogene, **Davitsashvili, L. S.:** Molluscan assemblages in the Choctawhatchee deposits in Florida, **DuBar & Taylor:** Mollusca of Croatia, **Eremija, M.:** *Busycon* redescribed and reillustrated from Yorktown, Virginia upper Miocene, **Fagerstrom, J. A. (2):** Mollusca from Monaco, **Fengueur & Le Calvez:** New *Trisidos*, Japan, **Fujii, S. (1):** *Anadara kakehataensis* and its allies from Japan, **Fujii, S. (2):** New data on deposits and their molluscs from Armenia, **Gabrielyan & Nazaryan:** Developmental history of the fauna of the Konkak layers, Georgia, U.S.S.R., **Ghrachevsky, M. M.:** Gastropoda from Yamagata Pref. Japan, **Hatai & Kotaka:** Marine and brackish molluscs, Bayern, **Hölzl, O.:** Mollusca from Roquebrune (Alpes-Maritimes), **Iaworsky, G.:** Mollusca from Aomori Pref., Japan, **Iwai, T.:** Sarmatian molluscs from Moldavia, **Jeanrenaud, P.:** New *Viviparus* from Yugoslavia, **Jenko, K. (1):** Mollusca from Western Europe, **Jodot, P.:** Tortonian *Spiralis* in the Polish Carpathians Foreland area and W. Ukraine, **Jurkiewicz & Karnkowski:** Tortonian molluscs from Czechoslovakia, **Kalabis, V.:** "*Pleurotomaria*" from Japan, **Kanno, S. (2):** Lists of marine Mollusca from Zagreb Mts., Yugoslavia, **Kochansky, V.:** Mollusca from Western Kamchatka, U.S.S.R., **Krishtofovich & Ilyina (2):** Sarmatian Mollusca from the Russian platform, **Kudrin, L. N. (1):** Tortonian and Sarmatian Mollusca on Western Ukraine territory, **Kudrin, L. N. (2):** Mollusca of western Kopet-Dag, Turkmenia SSR, **Larchenkov, A. Y.:** Gastropods and lamellibranchs of the Iberian peninsula, **Lopez de Azcona, J. M. & M. C.:** Sarmatian Mollusca from Roumania, **Macarovič, N.:** *Lituyapecten* from Alaska and California, **MacNeil, F. S.:** Aquitanian Mollusca from Entre-Deux-Mers, France, **Magne & Pratiel:** Mollusca of the Grand Canary Island, **Martel Sangil, M. (1):** Tortonian/Sarmatian boundary molluscs from Roumania, **Mészáros & Nicorici:** Pannonian *Congerina* from the Belgrade area, Yugoslavia, **Miletić-Spačić, O.:** Burdigalian Mollusca from Provence, France, **Mongin, D. (1):** Pannonian *Lymnaeidae* from Croatia, **Moos, A.:** Mollusca from the andesite tuffa of Olténie, Roumania, **Motaş & Pătrescu:** Molluscan fauna of the Tanga district, Tanganyika, **Nuttall & Sealy:** Mollusca from the Burdigalian of Majorca, **Oliveros, Escandell & Colom (1):** Post Burdigalian Mollusca from Majorca, **Oliveros, Escandell & Colom (2):** Additional note on ovoviviparous *Turritella*, **Palmer K. V. W. (2):** Mollusca from the Transcarpathian basin, **Petrashkevich & Guridov:** Preservation of pelecypod shells in the Vorlutska strata, Pechorsk basin U.S.S.R., **Pogorevich, V. V.:** New lamellibranchs from Cisbaikalia, Russia, **Popova, S. M.:**

Pannonian *Theodoxus* from Moravia, Řehoř & Řehořová; Mollusca of California, Repenning & Vedder; New *Pecten* sp. from the Helvetian S. of Bern, Rutsch & Steininger; Gaj fauna from Travancore-Cochin, S. India, Sahni & Sastry; Mollusca from Gebel Owbeid, Egypt, Said & Yalouse; *Euchilus* from Germany, Schlickum, W. R. (2); Development of Vermetidae from the Tortonian, Schmidt, W. J.; Santonian *Inoceramus* from N.W. Germany, Seitz, O.; Palaeontology of the Miyazaki group, Japan, Shuto, T. (1); New Sarmatian cardiids from Mangyshlak, Russia, Sidorova, N. P.; Turritellidae and Mathildidae from Austria, Sieber, R.; Mollusca of Luanda, Angola, Silva & Soares; New *Chlamys* from Angola, Soares, A. F.; First discovery of Strobilopsidae in Russia, Steklov, A. A.; Pontian *Limnocardium* from Kadar, Yugoslavia, Stevanović, P. M.; Vindobon Mollusca from Tannava, West Serbia, Stevanović & Milošević; Sarmatian and Tortonian Mollusca from Slovenka, Švagrčský, J.; Mollusca of the Tokai region of Japan, Tsuchi, R. (1); List of Mollusca from the Maikop beds, Western Georgia U.S.S.R., Vakhaniya, E. K. (1); Molluscs from Lechkhumi U.S.S.R., Vakhaniya, E. K. (2); Lists of Pontian molluscs from Azerbaidjan, Vekilov, B. G.; Mollusca from Costa Rica, Woodring & Malavassi V.; Mollusca of the Northern Caucasus and Crimea, Zhishchenko, B. P.

Oligocene.—Mollusca from S.W. Armenia, Aslanyan, P. M. (2); *Pecten arcuatus* in the Keara-Molla level of the Cyrena sandstones in S.W. Armenia, Aslanyan, P. M. (4); Mollusca of Greece, Aubouin, J.; Chattian and Aquitanian molluscs from the Carpathian basin, Baldi, Kecskeméti & Nyíró; New *Banksia* from Washington, Durham & Zullo; Evolution of Astartidae, Hinsch, W.; Marine & brackish mollusca, Bayern, Germany, Hölzl, O.; Mollusca of the Asagai formation, Kanno, S. (1); Oligocene—Lower Miocene age of Mollusca from Northern Yergheny, Russia, Kasakova & Leonov; Maikop Mollusca of Southern Russia, Merklin, Morozova & Stolyarov; Brackish water Mollusca from West Thracia, Greece, Mitsopoulos, M. K.; Mollusca from manganese ore beds of the Caucasus and Crimea, Selin, Yu. I.; Sannoisian Mollusca from Spain, Truyols Santonja & Crusafont Pairó; Mollusca from Lechkhumi, U.S.S.R., Vakhaniya, E. K. (2).

Eocene.—Patellidae and Capulidae of the Upper Talysh, Russia, Alizade & Baghmanov; Mollusca of S.W. Armenia, Aslanyan, P. M. (3); Mollusca from Greece, Aubouin, J.; *Athleta petrosa* from Texas, Fisher & Rodda; New Mollusca from Southern Ukraine, Korobkov, I. A.; Mollusca from Poland, Krach & Liszka; New Scaphopoda of the northern Caucasus, Merklin, R. L. (3); New nautilus from the Cowlitz formation of Washington, Palmer, K. V. W. (1); Mollusca as indicators of a tethyan influence in Florida, Palmer, K. V. W. (4); Lutetian *Cardium* from Dalmatia, Pavlovec, R.; Mollusca from S.W. Cluj, Roumania, Tătarim, N.; Molluscan stratigraphy from Turkmenia, Valbe & Dzhaharova; Dysodonta and Desmodonta from the Ukraine, Zelinska, V. O.

Cretaceous.—Mollusca of Southern Tanganyika, Aitken, W. G.; Gastropoda from the Minor Caucasus, Azerbaidjan, Russia, Aliev, G. A. (1); Opisthobranchia from Azerbaidjan, Russia, Aliev, G. A. (2); Pseudomelaniidae and Nerineidae from Azerbaidjan, Aliev, G. A. (3); Senonian lamelibranchs from Turkmenia SSR, Aliev, M. M. & R. A. (1); Lamelibranchs from Kopet-Dag, Turkmenia SSR, Aliev, M. M. & R. A. (2); Mollusca from the Dzhebrail region, Azerbaidjan Russia, Aliev, M. M. & R. A. (3); Mollusca from the Minor Caucasus, Russia, Aliev, O. B. (1) & (3); New gastropods from the Minor Caucasus, Russia, Aliev, O. B. (2); Turonian *Inoceramus* from Armenia, Aliev, R. A. (1); Mollusca

from S.E. Caucasus, Aliev, R. A. (2); *Rhyncholites* in the S.E. Caucasus, Aliev, R. A. (3); Belemnites from the S.E. Caucasus, Russia, Alizade, A. A. (1) & (4); New belemnites from the S.W. Caucasus, Alizade, A. A. (2); *Neohelbolites* phylogeny from the Caucasus, Alizade, A. A. (3); Mollusca of N.W. Baja California, Mexico, Allison, E. C. (2); Barremian *Pachytrapa* from Doubs, France, Astre, G. (4); Mid-Albian ammonite from the Armenian republic, Atabekyan, A. A.; Mollusca from Greece, Aubouin, J.; Mollusca of Greece, Aubouin, Brunn, Celet et al.; Belemnoid rostra from the Palaeocene of S. Israel, Avnimelech, M. (1); Campanian Pachydiscid ammonite from Israel, Avnimelech, M. (2); Campanian Placentieratid ammonite from Palestine, Avnimelech, M. (3); Mollusca from Spain, Bataller, J. R. (3) & (4); Gastropoda from Hungary, Benkő-Csabay, L.; Ammonoidea from Sergipe, Brazil, Beurlen, K. (1); New and known *Delphinula*, Donbass district, Russia, Blank, M. J.; Mollusca from the Ma deposits, Biezard, R. G. (2); Oxygen isotope paleotemperature measurements of Belemnites from Europe, India and Japan, Bowen, R. (1); *Belemnella* from the Upper Maastrichtian of France, Brotsen & Birckelund; Palaeontology of the Lower Greensand, Casey, R. (1), (2) & (4); Ammonite levels in the Sandringham sands of Berriasian age, Casey, R. (3); Nomenclatorial corrections for gastropods from the lower Greensand, Casey, R. (5); Cenomanian Mollusca from Saint-Jouin, France, Cayeux, L. (4); Albian ammonites from the Havre region, France, Cayeux, L. (5); Rudists from Cuba, Chubb, L. J.; Cretaceous Binneyitidae in the W. United States, Cobban, W. A.; Ammonites from the Seabee formation of N. Alaska, Cobban & Gryo; Neocretaceous ammonites from Menabe, Madagascar, Collignon, M. (3); Campanian *Belemnella* from Switzerland, Corminboeuf, P.; Fossils of the Nanutarra formation Western Australia, figs., Cox, L. R. (1); Marine molluscs from the Hungarian Senonian, Csabay, L. B.; Ammonites from Normandy, Didon, J.; Study of *Gryphaea pitcheri* Morton 1834 and *G. navia* (Hall 1856) Gabb 1861, Dmitriev, A. V. (2); East Greenland Mollusca, Donovan, D. T.; Atlas of the fauna of the Caucasus and Crimea, Drushchits & Kudryavtsev; Mollusca from the Oulad Nail Mts., Sahara, Emberger, J.; Ammonites from the Central Carpathians, Eristavi, M. S. (1); Albian and Aptian ammonites from the northern Caucasus, Eristavi, M. S. (2); Coniacian and Santonian ammonites from the Beausset basin, France, Fabre-Taxy, S.; Lamelibranchs from the Cameroons, Freix, S.; Distribution of lower Turonian ammonites in Israel and neighbouring countries, Freund, E.; Fuvelian *Unio* from near Thézan (Aude), Freydet, P.; Amino-acid from an ammonite shell, Fujiwara, T.; New ammonites from Switzerland, Gerth, H.; Ammonites from the Ulyanovsk Povolzh'ya deposits near Saratova, Glasunova, A. E.; Pulmonata from Lauzanier, Gubler, Y.; Mollusca from the chalk of Osnabrück, Germany, Hiltermann & Lüttig; *Coilopoceras* from Uzbekistan, Russia, Ilyin, V. D.; Mega-fossils from Alaska, Imray, R. W. (2); *Actinocamax* from the Benton and Niobrara formation of Kansas, Jeletzky, J. A.; Muscle attachment impressions in ammonites, Jones, D. L.; *Inoceramus* in Colorado, Kauffman, E. G.; New Middle Turonian *Ringicula* from Colorado, Kauffman & Pope; Mollusca from Limestone Co., Texas, Palaeocene, Kellough, G. R.; *Eozogyr* from the Indudra formation, Mexico, Kellum & Shubak; Taxonomic revision of *Platylenticeras* Hyatt 1900, of the lower Cretaceous to Middle Valendis, Kemper, E.; *Inoceramus* from the Minor Caucasus, Azerbaidjan, Khalilov, A. G. (1); *Inoceramus labiatus*, Ukraine, Kotzyubinsky, S. P. (1); *Inoceramus* from Lvov, U.S.S.R., Kotzyubinsky, S. P. (2); Rudists from Austria, Kühn, O. (1); Mollusca from Hvar-Lesina, Dalmatia, Langer, W. (1); *Inoceramus* from the Senonian of Dalmatia, Langer, W. (2); New pelec-

- pods, W. Siberia, **Lebedev, I. V.**; Mollusca of the Kosmaj Mt., Sumadija, N. Serbia, **Luković, S. M.**; Molluscan stratigraphy of the N.W. Caucasus, **Lunov, N. P.** (1); Molluscan stratigraphy from southern Russia, **Lunov, N. P.** (2); Nevisian ammonites from Poland, **Malinowska, L.**; Ammonites from the Minor Caucasus, Russia, **Mamedzade, R. N.**; Mollusca from central Serbia, **Marković, O.**; Ammonites of the Cenomanian of the Crimea, **Maslakova, N. I.**; Alalanian Mollusca from l'Orne and d'Ars basins, France, **Mauberge, P. L.** (1); Campanian and Maastrichtian Cephalopoda, **Mikhailov, N. P.**; Senonian rudists from Yugoslavia, **Milovanović, B.**; "Unio" *valdensis* from the Wealden beds of England, **Mongin, D.** (4); Molluscan stratigraphy from the Caucasus, **Mordvilko, T. A.**; Zonal schemes based on ammonites and belemnites, **Morozova, V. G.**; Upper Cretaceous Mollusca from the Caucasus and Crimea, Russia, **Moskvin, M. M.**; Danian deposits of the Crimea, Caucasus and Transcasian region of the Russian platform, **Moskvin & Naidin**; *Belemnitiella* of the Russian platform, **Naidin, D. P.** (1); Mollusca of the Russian platform, **Naidin, D. P.** (2); Gyliaian *Pterotrigitia* from Japan, **Nakano & Numano**; *Inoceramus* from Nová Sedlica, E. Czechoslovakia, **Neměck, J.**; *Inoceramus* from the Cenomanian of Biala-Bielko, Poland, **Nowak, W.**; Coniacian ammonite from Israel, **Parnes, A.**; New and little known *Physa* from the Danian of Patagonia, **Parodiz, J. J.** (2); Mollusca of the Lvov district, Russia, **Pasternak, S. I.** (1); Siliceous concretions on oysters in the Charente, **Patte, E.**; Nerineidae from the Don Basin, Ukraine, **Pchelintzev, V. F.** (1); Mollusca of Norfolk, **Peake & Hancock**; Comanche series of N. Mexico and Texas, **Perkins, B. F.**; Upper Tertiary *Grammoceras* conchometric study, **Perrin & Théobald**; Mollusca from Žugubica Valley, Yugoslavia, **Popović, R.**; Tortonian Mollusca from Crete, **Psarianos & Vetoulis**; Mollusca from Montenegro, Yugoslavia, **Radoičić [Bratina], R.** (2); *Pyrgulifera* in the Upper Cretaceous, **Rey, R.**; Mollusca of Nigeria and the Cameroons, **Reyment, R. A.** (1); Mollusca from Pull-i-Khumri, Afghanistan, **Ronchetti, C. R.**; Cenomanian Mollusca from Tripoli, N. Africa, **Ronchetti & Albanesi**; Danian Mollusca from Denmark, **Rosenkrantz, A.**; Evolution of Mollusca in the Cretaceous age, **Russell, L. S.**; Senonian rudists from Greece, **Sakellariou, H.**; Belemnites, North Siberia, **Saks, V. N.**; Mollusca from Morocco, **Salvan, H.**; Mollusca from Spain, **San Miguel de la Cámara & Colom**; Ammonite from Angola, **Silva, G. H. da** (2); Mollusca from the Sudeten Mts., Czechoslovakia, **Skácel, J.**; *Karamaites* from the Vrakonak deposits, Mangyshlak, Russia, **Sokolov, M. I.**; Santonian ammonites from Vonso, Congo, **Sornay, J.**; Cenomanian *Desmoceras* from the Godula Beds, Moravia, Czechoslovakia, **Stráňák, Z.**; *Inoceramus* from eastern Serbia, **Šušić-Protić, Z.**; Mollusca from the Cretaceous/Tertiary in Nagashima, S.W. Kyushu, Japan, **Takai & Matsumoto**; *Eopinctada* from Kumamoto Pref., Japan, **Tamura, M.** (2); Rudist faunas of Puglie, Italy, **Tavani, G.**; Vraconian *Schloenbachia* from the Alpes-Maritimes, France, **Thomel, G.** (1); New ammonite from the French Hauterivian, **Thomel, G.** (2); *Lytioceras corroyi* n. sp. from Nice, **Thomel, G.** (3); Albian and Cenomanian Mollusca from the Asse Valley, France, **Thomel, G.** (4); Mollusca from Bohemia, **Tröger, K.**; Chemical composition of molluscan shells from South Dakota, **Turekian & Armstrong**; Ammonoidea from Ankara, Turkey, **Türkünlü, M.**; Mollusca from Turkmenia, Palaeocene deposits, **Valbe & Dzhaharova**; Albian ammonite from the Awatere Valley, New Zealand, **Vella, P.** (2); *Actaeonella* from eastern Siberia, **Vershchagin & Pchelintzev**; *Inoceramus* in the sediments of New Zealand, **Wellman, H. W.**; Ammonite successions of the Gulf Coast of the United States, **Young, K.** (1) & (2); *Puzosia* from Breggia (Südtessin), **Ziegler, B.** (1).
- Jurassic.**—Callovian ammonites from Azerbaidjan, **Abdulkasumzade & Gasanov** (2); Trigonitidae of S.E. Tanganyika, **Aitken, W. G.**; Mollusca from Tuarkyr Turkmenia, **Amanniyasov, K.**; Ammonites from Greben, Yugoslavia, **Andelković, M. Ž.** (1); Oxfordian ammonites from Serbia, Yugoslavia, **Andelković, M. Ž.** (2); Tithonic *Monneria* from Spain, **Astre, G.** (5); Mollusca of Greece, **Aubouin, J.**; Ammonites and their stratigraphy in Armenia, **Azarian & Akopian**; Callovian Mollusca from Hirşova Dobroudja, Roumania, **Bărbulescu, A.**; Ammonites from Sulejów, Poland, **Barczyk, W.**; Ammonites from the Haute-Saône region, **Beauvais, L.**; *Gleviceras* in the Lotharingian of Franc-Comtois, **Blaiss & Théobald**; Palaeotemperature analyses of Belemnoida, **Bowen, R.** (2); East Greenland Mollusca, **Callomon, J. H.**; Oxfordian cephalopods from Normandy, **Cayeux, L.** (1); Kimmeridgian cephalopods, **Cayeux, L.** (2); Mollusca from western Sicily, **Christ, H. A.** (1); Study on the ammonites *Campylites* and *Trimarginites*, **Christ, H. A.** (2); Oxfordian ammonite impressions from Cuba, **Clemencia de la Torre**; Tithonian ammonites from Madagascar, **Collignon, M.** (2); Dogger molluscs from Pomerania, **Dayesak-Calikowska, K.**; Mollusca from the Oulad Nail Mts., Sahara, **Emberger, J.**; Bathonian Mollusca from France, **Fischer, J.-C.** (1); Ceritellidae from the Charmouthian of France, **Fischer, J.-C.** (2); Mollusca from Kawhia, New Zealand, **Fleming, C. A.**; Ammonite faunas of the Canadian Arctic, **Frebold, H.**; Kimmeridgian Perisphinctidae from S. Germany, **Geyer, O. F.** (1); Ammonites from the Kimmeridgian of Germany, **Geyer, O. F.** (3); Lamellibranchs, gastropods and scaphopods from central European Russia, **Gherasimov, P. A.**; Pelecypoda from Awazu and Yamagami formations N.E. Japan, **Hayami, I.** (2); Pelecypoda, Japan, **Hayami, I.** (3); Lists of gastropods from the Oolite of Perogny (Haute-Marne) France, **Houdart, J.**; New ammonite genera and subgenera from Alaska, **Imlay, R. W.** (1); Ammonites from the Sierra Nevada California, **Imlay, R. W.** (3); Ammonite phylogeny problems, **Kamysheva-Elpat'evskaya, Nikol'seva & Troitskaya**; New *Pygmatia* from Central Poland, **Karczewski, L.**; Correlations between the Upper Jurassic faunas of Georgia and the Northern Caucasus, **Khimshiashvili, N. G.**; Ammonite-correlation study in Japan, **Kobayashi, T.** (3); New *Pseudocardinia* spp., Kazakhstan, **Kolesnikov & Spasskaya**; Guide forms of molluscs from the U.S.S.R., **Krimholts, G.** [Editor]; Rorak deposit Mollusca from Armenia, **Kryachkova, Z. V.**; Ammonites from the northern Caucasus, Russia, **Krymgoltz, G. Y.**; Kimmeridgian fossils from around Stobnica, Poland, **Kutek, J.** (1); *Nerinitella gurovi* sp. nov. from the Donetz basin, U.S.S.R., **Lankin, I. Y.**; New pelecypods, W. Siberia, **Lebedev, I. V.**; First occurrence of a Jurassic ammonite in Taiwan, China, **Lin, C. C.**; Unionids in Western Transbaikalia, **Martinson & Hong**; Hettangian and Bathonian ammonites from Bâle-Campagne, Switzerland, **Mauberge, P. L.** (2); Middle Jurassic Mollusca from Budos, Montenegro, **Mihajlović, M.**; Marine molluscs from S.E. Transbaikalian region, Russia, **Okuneva, T. M.**; Lusitanian Mollusca from the Pamir Mts., Russia, **Pchelintzev, V. F.** (2); Tithonian Mollusca from Yugoslavia, **Poljak, J.**; Belemnoids from Poland, **Pugaczewska, H.**; New subgenera of Nerineidae from Sardinia, **Rabbi, E.**; Ammonites from Dinarides Yugoslavia, **Radoičić-Bratina, R.** (1); *Hecticoceras* from the Callovian of the French Jura, **Rangheard, Y.** (1) & (2); Callovian Mollusca from Besançon-Palente, **Rangheard & Théobald** (2); New pelecypods of Russia, **Repman, E. A.**; *Clydioceras* Bathonian of Balingen, **Rieber, H.**; Kimmeridgian Mollusca from Normandy, **Rioul, M.** (2); Kimmeridgian of Calvados, **Rioul & Bassompierre**; Mollusca from Afghanistan, **Ronchetti & Sestini**; Ammonites from Thailand, **Sato, T.** (1); Oxfordian ammonites from the Philippines, **Sato, T.** (2);

Jurassic-Cretaceous boundary molluscs from Japan, Sato, T. (3); New Japanese ammonites, Sato, T. (4); Mollusca from the central regions of the Russian platform, Sazonov, N. T. (1); Oxfordian and Kimmeridgian ammonites from Russia, Sazonov, N. T. (2); Revision of belemnites, Schwegler, E.; Ontogenetic development in ammonites, Shevryev, A. A. (1); Italian ammonites from Monte Timarolo, Grezzane, Sturani, C.; Mollusca from the Torino series, Tamura, M. (1); Ammonoidea from Turkey, Türkünal, M.; Mollusca from Yugoslavia, Veselinović, D.; Pandoracea from Kugitang-Tau ridge, Turkmenia Russia, Yuferev, B. F. (1) & (2); Anisomyaria from the Kugitang-Tau ridge, Turkmenia SSR, Yuferev, B. F. (3); New mollusca from Turkmenia, U.S.S.R., Yuferev, B. F. (4); Distribution of *Aulacostephanus*, Ziegler, B. (2); *Gravesia* from Doubs, France, Ziegler, M. A.

Lias.—Ammonites from Nakhichevan, Azerbaidjan, Abdulkasumade & Gasanov (1); Ammonites from Lons-le-Saunier Jura, Blaison, J.; Ammonite zones of Abbans-desuz, Bourquin, Faure & Théobald; Ammonite zones and subzones of the N.W. European Province, Dean, Donovan & Howarth; Ammonites from Morocco, Dubar, G.; *Cenoceras* subsp. nov. from Transdanubia, Hungary, Góczy, B.; Yamaoku pelecypods from west Japan, Hayami, I. (1); Mollusca from Čierny Lehota, Bratislava, Kochanová, M.; Southern Slovakian Cephalopoda, Kollárová-Andrusovová, V. (1); Malacological study of the Lorraine Keuper, Laugier, R.; New *Atracites* from Spain, Meléndez, B. (2); Ammonites from Calvados Normandy, Rioult, M. (1); Ammonites from Saltrio, Italy, Sacchi-Vialli & Cantaluppi; *Cymbites* from Germany, Schindewolf, O. H. (2); Mollusca from Kaizen, Guangdong province, China, Sun, Chai & Shao; Ammonites from the Côte-d'Or, Tintant, H.; Amaltheidae from the Côte-d'Or, Tintant, Gauthier & Lacroix; Ammonoidea from Ankara, Turkey, Türkünal, M.; Ammonites of the upper Lias from Yugoslavia, Vlahinjić-Dekić-K.

Trias.—Santa Clara Mollusca from Sonora, Mexico, Alencaster de Cerna, G.; New family of *Ceratites* from Mangyshlak, U.S.S.R., Astakhova, T. V.; Mollusca of Greece, Abouin, J.; Molluscan deposits in Nakhichevan, Azerbaidjan, Anisbekov & Gadzhiev; Mollusca from the Canton of Vaud, Switzerland, Botteron, G.; *Burmesia* in N.W. Szechuan, China, Chen, G.; Mollusca from the Oulad Nail Mts., Sahara, Emberger, T.; Gastropoda from the Transdanubian region, Hungary, Góczy, F.; *Monotis* from Japan, Hase, A.; Lamellibranchs from the Oman peninsula, Arabia, Hudson & Jefferies; Atlas of Triassic Mollusca of the U.S.S.R., Kiparisova, L. D. [Editor]; Ammonoidea from Slovakia, Kollárová-Andrusovová, V. (2); Lower Triassic Artoceratids from Spitzbergen, Kummel, B.; Werfenian molluscs from (Trentin) Italy, Leonardi, P.; Pelecypoda from Southern Israel and Sinai, Lerman, A. (1); Non-marine Mollusca from Northern South Australia, Ludbrook, N. H. (1); *Myophoria inaequicostata*, Val Grana, Italy, Michard, A.; Belemnoides from Sonora, Mexico, Miller, H. W.; Pelecypoda from the Maizuru zone, S.W. Japan, Nakasawa, K.; New molluscs from Hungary, Oravecz, J.; Mollusca from Hungary, Oravecz & Végh-Neubrandt; Mollusca from the Crna Gora, Yugoslavia, Pantić, S. (1); Mollusca from Nikšić, Yugoslavia, Pantić, S. (2); Mollusca from Hämattit and Smreka, Bosnia, Yugoslavia, Pavlović, P.; Mollusca from S. of Inn, Tirol, Pirkel, H.; Mollusca from Poland, Senkowiczowa, H.; Ontogenetic development of Anisian ceratites from the Caucasus, Shevryev, A. A. (2); Marine Mollusca from Northwestern Nevada, Silberling, E. J.; Pelecypoda of the Hirabara formation Japan, Tokuyama, A. (1); Pelecypoda from Malaya, Tokuyama,

A. (2); Mollusca from Queen Elizabeth Islands, Tozer, E. T.; Ammonites of East Greenland, Trümpy, R.; Mollusca of the Gerece Mts. Hungary, Végh-Neubrandt, E.; Mollusca from Tarragona Spain, Virgili & Julivert; *Worthenia* n.sp. from New Zealand, Waterhouse, J. B.

Mesozoic.—Freshwater fauna of Eurasia, Bogachev, V. V. (2); Freshwater Mollusca from China, Chow, M. M.; Mollusca of the Mürztal Mts., Austria, Cornelius, H. P.; Recent literature on Mesozoic ammonites, Haas, O. (2); Mollusca from Bengry, Azerbaidjan, Khalilov, A. G. (2); Ammonites and pelecypods from Western Siberia, Klimova & Korneva; Mollusca from Asia, Martinson, G. G. (1); Lamellibranchia from the Sahara, Mongin, D. (3); Fauna of Granada, Moreno, I.; *Aptychus* from Val Baganza, Italy, Zanzucchi, G.

Permian.—Ammonoids of Upper Artinskian, Baygendzhinsk age, Central Urals, Bogoslovskaya, M. F.; Review of invertebrate faunas of India, Branson, C. C.; Cephalopods from Hunan, China, Chao, K.-K.; Pelecypods from E. Australia, Dickens, J. M. (1); *Platystrophia* in Western Australia, Dickens, J. M. (2); *Eurydesma* and *Peruwispira* from the Dwyka beds of S. Africa, Dickens, J. M. (3); Invertebrates of Central East Greenland, Dunbar, C. O.; Note to draw attention of workers on the Permian to "Permophorus Chavan 1954 nom. nov. pro *Pleurophorus* King 1848," Fay, R. O.; Ammonoids of Australia, Glenister & Furnish; Ammonoids from the Inyo Range, California, Gordon & Merriam; *Conularia* from the northern Urals, Kalashnikov, N. V.; Mollusca from Montenegro, Yugoslavia, Kostić-Podgorska, V. (2); Greenland Mollusca, Mayne, W.; New pelecypods from Bashkirskaya, Nefzina, R. E.; Gastropoda from Montenegro, Yugoslavia, Pantić, S. (3); Ammonoidea from the Verhoyansk region, Russia, Ruzhentsev, V. E.; Stratigraphy and biota of Harvey and Sedgwick Co., Kansas, Tsch, P.; *Omphalotrochus* in N.W. United States, Yochelson, E. L. (3).

Carboniferous.—Lamellibranchs from Karagand, U.S.S.R., Aleksandri-Sadova, T. A.; Mollusca of the Ciudad Real prov. Spain, Almela, Alvarado, Coma et al.; *Naiadites* from the calciferous sandstone series of Fife, Bennison, G. M.; Goniatites from Belgium, Bouckaert, J.; Mollusca from the Kuttung rocks of New South Wales, Campbell, K. S. W.; Goniatites from the Sahara, Deleau, P.; Nomenclatorial review of *Macrodon*, *Grammatodon*, *Paralelodon* and *Beushausenia*, Driscoll, E. G.; Non-marine lamellibranch faunas of Leinster, Slieveardagh and Kanturk coalfields, Eagar, E. M. C.; Non-marine lamellibranchs from Provanmill District, Glasgow, Forsyth, I. H.; Desmoinesian ammonoid from Oklahoma, Furnish & Beghtel; Mollusca from the Pola de Gordon basin, Spain, Gomes de Llaena, J.; Distribution of nautiloids in Arkansas, Gordon, M. Jr.; Mississippian Mollusca from Nevada, Gordon & Duncan; Marine fossils from Asturias, Spain, Hernández-Sampelayo, P.; Desmoinesian Mollusca from S.W. Missouri, Hoare, R. D.; Lists of Mollusca from Yugoslavia, Kostić-Podgorska, V. (3); Goniatites from the Cantabrian Mts., North Spain, Kullmann, J.; *Gastrioceras* zone in the Andenne-Huy coalfield, Belgium, Lambrecht & Leckwicz; Ammonoid evolution, Librovitch, L. S.; Lower Carboniferous gastropods from Old Cannindah, Queensland, Maxwell, W. G. H.; Pelecypoda from the Upper Carboniferous of São Paulo, Brazil, Mezalana, S.; Viséan varieties of *Goniatites* from the Sahara, Pareyn, C. (1); *Goniatites* from the Sahara south of Oran, Pareyn, C. (2); *Leisnucata* zone Mollusca from Belgium, Pantić, A. (1); Westphalian non-marine lamellibranchs from Belgium, Pantić, A. (2); Namurian goniatite-bearing shales

from Cork, Ireland, Philcox, M. E.; New Visean nautiloids, Ireland, Ramsbottom & Moore; Mollusca of Knox Co., Ohio, Root, Rodriguez & Forsyth; New Polidavia from the Namurian of Poland, Růžicka & Bojkowski; Goniatites from the Cordilleras Spain, Schindewolf & Kullman; Namurian Mollusca from the Russian Platform, Semikhatova, S. V.; Freshwater lamellibranchs from Samara coal deposits, Russia, Sergeev, V. V.; Evolution of Actinoceratoidea, Shimansky, V. N. (3); Visean Mollusca from Freiberg, Germany, Sittig, E.; Lamellothoceratidae from Germany, Teichert, C. (2); Lamellibranchs from León, Spain, Teixeira, C.; British non-marine Lamellibranchia, Trueman & Weir; Pennsylvanian orthocone from Oklahoma, Unklesbay, A. G. (1); Gastropods from Karagandinsk basin, U.S.S.R., Vostokova, V. A.; Goniatites from the N.W. of Spain, Wagner-Gentis, C. H. T.; British non-marine Lamellibranchia, Weir, J.; New Namurian goniatites from Co. Leitrim, Ireland, Yates, P. J.; New gastropod from China, Yü, W. (2); Mollusca from the Święty Krzyż Mts., Żakowa & Pawłowska.

Devonian.—History and development of late Devonian inhabitants of the Kuznets sea basin, Belkaya, T. N.; Eifelian ammonoids from the Urals, Bogoslovsky, B. I.; Tentaculitoidea from Bohemia, Czechoslovakia, Bouček & Prantl; Ammonites from the Great Khingan, Inner Mongolia, Chang, A.; Mollusca of the polar Urals, Russia, Chernov, G. A.; Mollusca from the Srbsko beds, Bohemia, Chlupáček, I.; Formosa reef limestone of S.W. Ontario, Fagerstrom, J. A. (1); *Sellanarcestes* from the Presahara region, Morocco, Hollard, H.; New Monoplacophora from Bohemia, Czechoslovakia, Horný, R.; *Acanthocylenia* = *Manticoceras*, House, M. R.; *Conularia* from the northern Urals, Kalashnikov, N. V.; Tentaculitoidea of Zemmour, Mauritania, Lardeux, H.; New goniatites from the Russian Platform, Lyashenko, G. P. (1); New Tentaculites and Styliolina from the Russian platform, Lyashenko, G. P. (2); German Devonian fossils, Ochs & Wolfart; Clymenids from the Famennian of the Sahara, Petter, G.; *Boionitylus* new genus from Bohemia, Růžicka & Prantl (1); *Neuellipecten* from Bohemia, Růžicka & Prantl (3); Goniatites from the Cordilleras, Spain, Schindewolf & Kullman; *Barcinia* gen. nov. from Cataluña Spain, Suñer Coma, E.; *Hercynella* in the Arctic Urals, Tchernov, G. A.; Lamellothoceratidae from North Africa, France, Germany and Turkey, Teichert, C. (2); Mollusca from Paraguay, Wolfart, R.; Rare type of cameral deposits in nautiloids, Zhuravleva, F. A. (1).

Silurian.—New early gastropods from Bohemia, Czechoslovakia, Horný, R.; *Michelinoceras* from the eastern Pamirs, U.S.S.R., Karapetov, S. S.; Mollusca from Cáceres, Spain, Ramirez, E.; Mollusca from Paraguay, Wolfart, R.; Nautiloids from Podolia, Ukraine, Zhuravleva, F. A. (2).

Ordovician.—Nautiloidea, U.S.S.R., Balashov, Z. G. (2); *Westonoceras* from Argentina, Borrello, A. V.; *Ordosoceras* and the *Polydesmia* horizon, Chang, Z.-D.; New Monoplacophora and Patelacea from Bohemia, Czechoslovakia, Horný, R.; *Michelinoceras* from the eastern Pamirs, U.S.S.R., Karapetov, S. S.; *Billingites* from the Ogontz formation of Michigan, Kesling, R. V.; Nautiloids from Thailand, Kobayashi, T. (1); *Byssonychia* from the Cincinnati of Ohio, Pojeta, J. Jr.; Nautiloids of Central Texas, Unklesbay, A. G. (2); Ottawa Cephalopoda from the Ottawa-St. Lawrence lowland, Wilson, A. E.; Mollusca from the Paiyango region, China, Yang, T.-Y.; Gastropods from Inner Mongolia, Yü, W. (1); Gastropods from Kepin district China, Yü, W. (3).

Cambrian.—Revision of Cephalopoda from Texas, Flower, R. H. (1); Mollusca from the Sampson forma-

tion, Mun'gyong district, South Korea, Kobayashi, T. (2); Lower Cambrian *Ceratolthea* from Central Siberia, Syssov, V. A. (2); *Hyolithes* operculum and mode of life in the Burgess shales, Yochelson, E. L. (1); *Cloudia buttsi* from Missouri, Zimmermann & Yochelson.

Palaeozoic.—Freshwater fauna of Eurasia, Bogachev, V. V. (2); Mollusca from Grange near Chalonnès (Maine-et-Loire), Erben, Lardeux, Lys, Pillel et al.; Mollusca from Austria, Flügel, E.; Pelecypod fauna of the Kuznets Basin, Western Siberia, Khalifa, L. L. (1) & (2); Biostratigraphy of molluscs from Prača (Bosnia) Yugoslavia, Kostić-Podgoraka, V. (1); First nautiloid found in the Pechenga series of the Kola peninsula, Lyubtsov, V. V.; New data on the fauna of the Konksk horizon, Russian platform, Pavlinova-Ilyina, L. B.; Bulgarian Mollusca, Spassow, H.

III—SYSTEMATIC INDEX

N.B.—FULL REFERENCES CAN BE FOUND, WHEN THEY ARE NOT GIVEN IN THIS INDEX, BY REFERENCE TO "TITLES" UNDER THE NAME OF THE AUTHOR GIVEN IN THE SYSTEMATIC INDEX AND THE NUMBER OF THAT AUTHOR'S PAPER WHERE MORE THAN ONE IS RECORDED.

WHERE FULL REFERENCE IS GIVEN IN THE SYSTEMATIC INDEX THE VOLUME NUMBER IS GIVEN IN SMALL CLARENDON.

Note.—The arrangement here used follows in general that of Thiele's 'Handbuch.' The most important differences are that Epitonacea and Pyramidellacea are placed preceding Muricea in order of grouping and the Families Triviidae and Eratidae are placed in Lamellariacea. The fossil Cephalopoda is arranged in general according to Tome 2 of "Traité de Paléontologie," J. Piveteau.

Where more than one page is given in a reference the one in roman type is where the new name first occurs and the one in *italic* is where the gen., sp., or var. is actually described.

MONOPLACOPHORA

TRYBLIDIACEA

†*Archinacellina* gen. nov. p. 300 of Archinacellidae genotype *Archinacella modesta* Perner 1903, Ordovician, Ashgillian, Králův Dvůr Beds, Bohemia, Horný, R.

†*Kotysium* gen. nov. p. 300 of Tryblidiinae genotype *Helcionopsis praepostera* Perner 1903, Middle Devonian Eifelian, Suchomasty limestone, Konéprusy Bohemia, Horný, R.

Neopilina from the Cedros Trench, Mexico; shell sculpture differs from that of *N. (Neopilina) galathea* and *N. (Vema) ewingi*, Menzies & Robinson; *N. galathea* general study of body organization, figs. A, P.; *N. galathea* the living fossil, Roding, G. M.

†*Patelliconus* gen. nov. p. 301 of Hypseloconidae genotype *Palaeacmaea primula* Perner 1903, Ordovician, Llanvirnian, Sárka beds, Osek Bohemia [may be a descendant of *Hypseloconus*, also may have given rise to the patellid stem], Horný, R.

†*Pentalina* gen. nov. p. 299 of Tryblidiinae genotype *P. prantli* sp. nov. p. 299, pl. 2, fig. 3; Dobrotiva beds, Ordovician Malé Přílepy, Bohemia, Horný, R.

†*Pilinopsis* gen. nov. p. 300 of Tryblidiinae, genotype *Helcionopsis eminens* Perner 1903, Lower Devonian Pragian, Upper Konéprusy limestone; Konéprusy Bohemia, Horný, R.

†*Platypilina* gen. nov. p. 300 of Tryblidiinae genotype *Scenella* ? *tardissima* Perner 1903, Lower Devonian Pragian, Upper Konéprusy limestone, Konéprusy Bohemia, Horný, R.

†*Pygmaeoconus* gen. nov. p. 301 of Hypseloconidae genotype *Palaeoconus porrecta* Perner 1903, Ordovician, Llanvirnian, Sárka beds, Osek Bohemia [morphological link between hypseloconids and tryblidiinae], Horný, R.

†*Retipilina* gen. nov. p. 299 of Tryblidiinae genotype *Pilina knightsi* Horný 1956; Silurian, Budňanian, Kopanina beds, Karlštejn, Bohemia, Horný, R.

AMPHINEURA

Amphineura, characteristics, key to families and general ecology of British species, Eales, N. B.; Check list of chitons of New Zealand, Powell, A. W. B.

Plathymenia gen. nov. p. 113, of Neomeniidae type species *P. branchiosa* sp. nov. p. 113, text-figs. 1-5; East Pacific, Schwabl, M. (1).

Polyplacophora

CHITONACEA

Acanthochitona tabogensis sp. nov. p. 87 pl. 9, fig. 2 [in color]; for *A. panamensis* Pilsbry nom. nud. 1932, Taboga Island, Panama, Smith, A. G. (5).

Chaetopleura (*Pallochiton*) *euryplax* Berry p. 83, pl. 8, fig. 2 [in color] for *C. varipustulosa* Pilsbry 1932 nom. nud. from Guaymas, Mexico, Smith, A. G. (5).

Chiton tuberculatum cytochemical investigation of ontogenesis and early development, Cowden, R. R.

Cryptochiton stelleri reproductive cycle, Giese, A. C.; *C. stelleri* photo., general ecological data, Voss, G. L.

Ischnochiton colimensis sp. nov. p. 86, pl. 9, fig. 1 [in color], for *I. lowei* Pilsbry nom. nud. 1932, Manzanillo, Colima Mexico, Smith, A. G. (5); *I. conspicuus* preyed on by *Octopus*, Pilson & Taylor; *I. pseudostriolatus* sp. nov. p. 6, figs. 5, 6; pl. 1, fig. 3; pl. 2, fig. 3; Santa Marta, Yacht "Chazalie" II, dredged 15 m. Cuba; *I. dispar* Antilles, *I. adamsi* Panama, general study, Leloup, E. (1).

Katherina tunicata reproductive cycle, Giese, A. C.

Lepidochiton exarata new to Icelandic fauna found off Reykjaneskagi at 470 metres (63° 06' N—23° 42' W), Óskarsson, I.

Liolophura japonica (Lischke 1873); *L. gaimardi* (Blainville 1825); *L. g. platyspinosa* (Leloup 1939); *L. japonica tenuispinosa* & *L. hirtosa* (Blainville 1825); figs. shell form and structures, aesthetes and spines, locality records, Leloup, E. (2).

Mopalia ciliata indication that this species spawns in rhythm with the tidal cycle, Thorpe Jr., S. R.; *M. hindsi* reproductive cycle, Giese, A. C.

Nuttallina cressota Berry p. 82, pl. 8, fig. 1, [in color] for *N. mexicana* Pilsbry nom. nud. 1932 from Guaymas, Mexico; not previously figured, Smith, A. G. (5).

Placiphorella velata feeding behaviour, McLean, J. H. (3).

Tonicina zschau (Pfeiffer) from Melchior Id. Antarctic, Smith, A. G. (4).

Aplacophora

Crystallophrisson (= *Chaetoderma*) *hartmani* sp. nov. p. 276, text-figs. 1-10; Eastern Pacific off S. California in 330-1100 m., Schwabl, M. (2).

GASTROPODA

Gastropoda, freshwater molluscs in the reservoir adjacent to the Lower Kura, Mingechaur to Ali-Bairamla, Vol. 98

Aliev, A. D. (3); Key to gastropod families, general ecology and characteristics of British species, Eales, N. B.; Factors controlling locomotion, Elves, M. W.; Physiology of reproduction, Galtsoff, P. S.; Gastropoda in Greece, photos., Jaekel & Plate; Atlas of the Triassic fauna of the U.S.S.R., Kiparisova, L. D.; Chemoreception, Kohn, A. J. (3); Importance of Gastropoda in soil biology; notes on habits and habitats of some species, Kühnelt, W.; Notes on their classification, Odhner, N. H.; Atlas of leading forms from the Jurassic of U.S.S.R., Petrova, G. T. in Krimholz, G.; Check list of species from New Zealand, figs., Powell, A. W. B.; Geometrical study of coiling, Raup, D. M.; Ecology in the Venice Lagoon, bioclimatic study of the Po plain, Sacchi, C. F. (6); Gastropoda of Dar es Salaam, coloured plates, Spry, J. F.

†*Patelloidea* gen. nov. p. 862, type species *P. limnensis* sp. nov. p. 862, pl. 97, figs. 4a-b; Jester Creek, Harvey Co., Kansas, Permian, Tasch, P.

†*Pteroplanorboides* gen. nov. p. 862, type species *P. primus* sp. nov. p. 862, pl. 97, fig. 1; Jester Creek, Harvey Co., Kansas, Permian, Tasch, P.

†*Rugoplanorboidella* gen. nov. p. 862, type species *R. sedgwickii* sp. nov. p. 862, pl. 97, fig. 3; Annelly, Sedgwick Co., Kansas, Permian, Tasch, P.

†*Wellingtonia* gen. nov. p. 864, type species *W. producta* sp. nov. p. 864, pl. 97, fig. 11; Harvey Co., Kansas, Permian, Tasch, P.

Prosobranchiata

BELLEROPHONTACEA

†*Aspidotheca* authorship should be corrected to Dahmer 1936, not Teichert 1935; type species by original definition *A. schieli* Dahmer 1936, Teichert, C. (1).

†*Bellerophon kepinensis* sp. nov. p. 346 (368), pl. 3, figs. 4-7; Ordovician, Subashigoukou, Kepin, Sinkiang China, Yü, W. (3); *B. (Bellerophon) planodorsatum* sp. nov. p. 139, pl. 19; figs. 3-5; Carroll strip mine, Henry Co., Missouri, Desmoinesian, Carboniferous, Hoare, R. D.

†*Bucanella squamosa* sp. nov. p. 344 (365), pl. 2, figs. 8-10; pl. 3, fig. 12; Ordovician, Subashigoukou, Kepin city, Sinkiang China, Yü, W. (3).

†*Cloudia butsi* from the Cambrian of Annapolis, Missouri, Zimmermann & Yochelson.

†*Cymbularia stricta* sp. nov. p. 347, (368) pl. 2, figs. 11-13; Ordovician, Puchangshan, Kepin district, Sinkiang China, Yü, W. (3).

†*Euphemites minutus* sp. nov. p. 62, pl. 7, figs. 1-4; Carboniferous, Parish Cannindah, Co. Yarrol, Queensland, Maxwell, W. G. H.

†*Glabrocingulum* (*Ananias*) *nodocostatus* sp. nov. p. 156, pl. 20, figs. 10, 11; 1 mile SE Appleton City, St. Clair Co., Missouri, Desmoinesian Carboniferous, Hoare, R. D.

†*Kepinospria* gen. nov. p. 343 (363) of Cyrtolitidae, genotype *K. ammonoides* sp. nov. p. 343 (364); pl. 1, figs. 13-15; Ordovician, Subashigoukou, Kepin City Sinkiang, China, Yü, W. (3).

†*Knightites* (*Retispira*) *nodulifera* sp. nov. p. 146, pl. 19, figs. 11, 12; 5 miles S of Pittsburg, Cherokee Co., Kansas, Desmoinesian Carboniferous, Hoare, R. D.

Protowarhiidae Ulrich & Schofield 1897, proposal to suppress this family group name under the Law of Priority and place it on the Official List of Rejected Names, Knight, Batten & Yochelson.

†*Sinkiangodiscus* gen. nov. p. 342 (362) of Cyrtolittidae genotype *S. chaoi* sp. nov. p. 342 (363), pl. 3, figs. 1-3; Ordovician, Subashigoukou, Kepin City, Sinkiang China, Yü, W. (3).

†*Sinobellerophon* gen. nov. pp. 160, 161; Bellerophonitidae genotype *S. yunnanensis* sp. nov. pp. 160, 161; pl. 1, figs. 1-7; Lower Carboniferous, Shitoushai, Chütsing City, E. Yunnan, China, Yü, W. (2).

†*Sinosinuities* gen. nov. p. 344 (365) Sinuitidae genotype *Sinosinuities cordateformis* sp. nov. p. 344 (365) pl. 1, figs. 1-8; Ordovician, Yimgantau, Kepin district, Sinkiang, China, Yü, W. (3).

†*Sinuities*, Koken 1896 type-species *Bellerophon bilobatus* Sowerby 1839; proposal that *Sinuities* and *bilobatus* be placed on the Official List, Knight, Batten & Yochelson; *Sinuities rotundata* sp. nov. p. 343 (364), pl. 1, figs. 9-12; Ordovician, Sugou, Kepintagh, Sinkiang, China, Yü, W. (3).

†*Sinuities* Dall 1913 (type genus *Sinuities* Koken 1896) proposal to place this name on the Official List of Family Group Names, Knight, Batten & Yochelson.

†*Tetranoda umbilicata* sp. nov. p. 345 (366) spelt *umbilicata* pl. 2, figs. 1-7; Ordovician, Suciganbulak, Yimgantau, Sinkiang, China, Yü, W. (3).

†*Treospira (Treospira) minima* sp. nov. p. 150, pl. 20, figs. 14, 16, 18; Bugg's farm 4-75 miles N of Lamar, Missouri; Desmoinesian Carboniferous, Hoare, R. D.

†*Tropidodiscus gigas* sp. nov. pp. 487-494, pl. 1, figs. 7-8; text-figs. 4a, b; Ordovician, Paiyangho region, Chilianshan, China, Yang, T.-Y.; *T. yimgantauensis* p. 345 (367) pl. 1, figs. 18-20; pl. 2, fig. 16; Yimgantau Kepin district; *T. regularis* p. 346 (367) pl. 3, fig. 13; Puchangshan, Kepin district, Sinkiang spp. nov. Ordovician, China, Yü, W. (3).

†*Waagenella microstriata* sp. nov. p. 63, pl. 7, figs. 6-8; Carboniferous, Parish Cannindah, Co. Yarrol, Queensland, Maxwell, W. G. H.

†*Worthenia humiliformis* Popov (in litt.) p. 122, pl. 24, figs. 9, 10; Trias, Indigirka river basin U.S.S.R., Kiparisova, L. D.; *W. philipsi* sp. nov. p. 6, pl. A, figs. 1-7; Barrett's Hut, Southland, Anisian Trias, New Zealand, Waterhouse, J. B.

EUOMPHALACEA

†*Discohelix ruizi* sp. nov. p. 58, text-fig. 816, Cenomanian Cretaceous, Zubielqui, Estella (Navarre) Spain, Bataller, J. R. (4).

†*Euomphalus kepintaghensis* sp. nov. p. 353 (377) Dermansai, Kepintagh; *E. k. similis* var. nov. p. 354 (377) pl. 6, figs. 7-9; Puchangshan, Kepin district, Sinkiang Ordovician, China, Yü, W. (3).

Euomphalidae de Koninck 1881 (type genus *Euomphalus* Sowerby 1814) proposal that this name be placed on the Official List of Family Group Names, Knight Batten & Yochelson.

Euomphalus Sowerby 1814, type species *E. pentagonalis* Sow. 1814, proposal that these names be placed on the Official List, Knight, Batten & Yochelson.

†*Lesueurilla pentagonum* sp. nov. pp. 489, 496, pl. 2, figs. 1-5; text-figs. 6-7; Ordovician, Paiyangho region, Chilianshan, China, Yang, T.-Y.

†*Maclureidae* Gill 1871, proposal that this family group name be suppressed and placed on the Official Index of Rejected Names, Knight, Batten & Yochelson.

†*Maclurea* Emmons 1842, proposal to reject this name as an invalid emendation of *Maclurite* Lesueur 1818, Knight, Batten & Yochelson.

†*Maclureidae* Carpenter 1861, proposal to suppress this family group name and place it on the Official List of Rejected Names, Knight, Batten & Yochelson.

†*Maclurita* Blainville 1823, proposal to reject this name as an invalid emendation of *Maclurites* Lesueur 1818, Knight, Batten & Yochelson.

†*Maclurite* Lesueur 1818, proposal to reject this name as an invalid spelling of *Maclurites*, Knight, Batten & Yochelson.

†*Maclurites* Lesueur 1818, type species *M. magna* Lea. 1818, proposal that these names be placed on the Official List, Knight, Batten & Yochelson; *M. orientalis* pp. 27, 34, pl. 3, figs. 1-2; pl. 4, fig. 1; Changkekgou, Zhuozishan; *M. zhuzishanensis* pp. 28, 35, pl. 1, figs. 4-7; Yilehaituoshan, W. Lashizhong, Ortuokqi, Yikezhao-meng, Inner Mongolia spp. nov. Lower Ordovician, Yü, W. (1); *M. sinkiangensis* sp. nov. p. 355 (379) pl. 6, figs. 10-15; Ordovician, Suguiqichacuen, Ocatair-tau Sinkiang, China, Yü, W. (3).

†*Macluritidae* Fischer 1885 (type genus *Maclurites* Lesueur 1818) proposal that this name be placed on the Official List of Family Group Names, Knight, Batten & Yochelson.

†*Ophiletitina orientalis* sp. nov. p. 354 (377) pl. 7, figs. 1-3; Ordovician, Yimgantau, Sinkiang, China, Yü, W. (3).

†*Straparolus australis* p. 65, pl. 8, figs. 1-4; *S. subdionysi* p. 66, pl. 8, figs. 5a-c; spp. nov. Carboniferous, Parish Cannindah, Co. Yarrol, Queensland, Maxwell, W. G. H.; *S. minutilineatus* sp. nov. p. 38, pl. 12, figs. 23, 24; North of Formosa, SE Ontario, Middle Devonian, Fagerstrom, J. A. (1).

†*Zhuozishanospira* gen. nov. pp. 29, 36 *Macluritidae* genotype *Zhuozishanospira zhuzishanensis* sp. nov. pp. 29, 36; pl. 5, figs. 1-3; Lower Ordovician, E. Changkekgou Zhuozishan, Inner Mongolia, Yü, W. (1).

PLEUROTOMARIACEA

†*Austrocothenia* gen. nov. p. 67 of *Pleurotomariidae* type sp. *A. levis* sp. nov. p. 68, pl. 9, figs. 1-6; Parish Cannindah, Co. Yarrol, Queensland, Carboniferous, Maxwell, W. G. H.

†*Clathrospira speciosa* sp. nov. p. 351, (374); pl. 4, figs. 16, 17; Ordovician, Yimgantau, Kepin district, Sinkiang China, Yü, W. (3).

†*Ditremaria orientalis* Kiparisova (in litt.) p. 144, pl. 21, figs. 8, 9a-d; Jurassic, Vostok, U.S.S.R., Petrova, G. T. in Krimhols, G.

Entemnotrochus adansoniana (Crosse & Fischer) Guadeloupe = *Pleurotomaria* a. Cr. & F., Turner, R. D. (2).

†*Eotomaria tarimensis* sp. nov. p. 350 (372) pl. 4, figs. 9-11; Ordovician, eastern Kekbaksakhan, Kepintagh, Sinkiang China, Yü, W. (3).

†*Hormotoma ordosensis* sp. nov. pp. 26, 33; pl. 1, fig. 3; Lower Ordovician Yilehaituo, W. Lashizhong Ortuokqi, Yikezhao-meng, Inner Mongolia, Yü, W. (1).

†*Kokenella crymensis* sp. nov. p. 121 pl. 24, fig. 14; R. Salghir, Crimes, U.S.S.R., Trias, Kiparisova, L. D.

†*Liospira biconvexa* sp. nov. p. 351 (373) pl. 5, figs. 4-8; Ordovician, Changci-Tuklakaigou, Puchangshan Kepin district, Sinkiang China, Yü, W. (3).

†*Lophospira sinensis* pp. 25, 31, pl. 4, fig. 5; *L. subcylindrica* pp. 25, 32, pl. 4, fig. 6; spp. nov. Lower Ordovician, Yilehaituo W. Lashizhong Ortuokqi, Yikezhao-meng, Inner Mongolia, Yü, W. (1); *L. tienshanensis* p. 348 (370) pl. 4, figs. 6-8; *L. compacta* p. 349 (371) pl. 4, figs. 1-2; Ordovician spp. nov. eastern Kekbaksakhan of Kepintagh, Sinkiang, China, Yü, W. (3).

Mikadotrochus schmalzi sp. nov. p. 505, pl. 28, fig. 4; pl. 29, fig. 1; text-figs. 1-5; S.W. Tosa and off Mishima, Iwami, *M. beyrichii*, *M. hirasei* and *M. salmiana* also studied, *Shikama*, T. (1).

†*Mourlonia confertinemilata* sp. nov. p. 37, pl. 13, figs. 6-8; Formosa, S. side Greenock Creek, N. of Teeswater River, S.E. Ontario, Middle Devonian, *Fagerstrom*, J. A. (1); *M. scalena* sp. nov. p. 156, pl. figs. 4a-4v; Karagan-dinak basin, Carboniferous, U.S.S.R., *Vostokova*, V. A.

†*Murchisonia (Hormotomina) linaleyi* sp. nov. p. 37, pl. 12, fig. 30; North of Formosa, S.E. Ontario, Middle Devonian, *Fagerstrom*, J. A. (1); *M. ? ordovicica* sp. nov. p. 352 (374), pl. 7, fig. 13; Ordovician, Puchangshan, Kepin district, Sinkiang China, *Yü*, W. (3).

†*Omospira lophospiroides* sp. nov. p. 352 (375) pl. 4, figs. 3-4; Ordovician, eastern Kekkukshakan, Kepintagh, Sinkiang China, *Yü*, W. (3).

†*Perotrochus otoensis* sp. nov. p. 116, pl. 6, figs. 8-9, Tochigi Pref., Japan, Miocene, *Kanno*, S. (2).

†*Peruviaspira kuttungensis* sp. nov. p. 471, pl. 56, figs. 10-17; Carboniferous, New South Wales, *Campbell*, K. S. W.; *P. vipersdorfensis* sp. nov. p. 145, pl. 18, figs. 7-11; Permian, Dwyka Beds; Gibeon District, S. Africa, *Dickens*, J. M. (3).

†*Platyleichum johnstonei* sp. nov. p. 134, pl. 17, figs. 9-12; Merlingleigh Homestead Permian, Western Australia, *Dickens*, J. M. (2).

Pleurotomaria adansoniana Cr. & Fisch. *P. quoyana* Fisch. & Bern, *Turner*, R. D. (2).

†*Pleurotomaria mosquensis* sp. nov. p. 169, pl. 38, figs. 4, 5; Mnevnik; Moskva river; Jurassic, European Russia, *Gherasimov*, A. P.

†*Raphistoma minuta* sp. nov. p. 348 (370), pl. 7, figs. 7-8; Ordovician, eastern Kekkukshakan, Kepintagh, Sinkiang, China, *Yü*, W. (3).

†*Trochonomella ? sinensis* sp. nov. p. 349 (371), pl. 4, figs. 12-15; Ordovician Suguigichacuen, Ocaitaer-tau, Sinkiang China, *Yü*, W. (3).

HALIOTIDACEA

Diodora nubecula resistance to desiccation, *Kristensen*, L.; *D. pusilla* pl. 4, fig. 11; recently described from Acapulco, Mexico, here figured for the first time, *Shasky*, D. R. (4).

Emarginula velascoensis sp. nov. p. 18, pl. 4, figs. 1-3; 40-80 fms. off S.W. end of Isla Montserrat, G. of California, *Shasky*, D. R. (3).

†*Emarginula foveolata* sp. nov. p. 169, pl. 37, fig. 11; Volga, Yaroslavlskaya province; Jurassic, European Russia, *Gherasimov*, A. P.

Haliotis cracherodii effect of pollution on free amino acid content, *Schafer*, R. D.; *H. discus* spawning Ibaragi Pref., gonad histology, *Ino & Harada*; *H. discus hanaei* changes in muscular nucleotides during storage, *Arai*, K.; *H. discus hanaei* changes in adenine nucleotides of muscle, *Arai & Saito*; *H. discus hanaei* isolation of a photodynamic agent from the liver, *Hashimoto & Tsutsumi*; *H. discus hanaei* chemical studies on the meat, *Tanikawa & Yamashita*; *H. fulgens* holes drilled in shell by *Ocotopus* predators, *Pilson & Taylor*; *H. gigantea* vitamin B₁₂ content of extracts, *Miyake & Hayashi*; *H. ovina & H. crebisculpta* ? from Swain's Reef, Queensland, *Talmdage*, R. R. (2); *H. rufescens & H. cracherodii* reproductive cycles, *Giese*, A. C.; *H. rufescens* Sw. effect of food on coloration, *Leighton*, D. L.; *H. rufescens* measurement of cytochrome respiratory pigments,

Pablo & Tappel; *H. tuberculata* tidal rhythm of oxygen consumption, *Fingerman*, M.

†*Haliotis (Euhaliotis) discus glabrata* Nomura et Niino 1932 = *H. kamichatkana glabrata*, *Oyama*, K. (5).

Hemitoma bella in Monterey Bay, *Chivers*, D.

Puncturella (Fissurisepta) agulhae sp. nov. p. 347, pl. 1, fig. 3; pl. 2, fig. 9; R/V Vema station 51, Agulhas basin, 1,000 miles S.W. Capetown, S. Africa in 2,507 fms., *Clarke*, jr. A. H. (2).

PATELLACEA

Acmaea (Collisella) pella, A. (C.) *limatula moerchii*, A. (C.) *asmi*, A. (C.) *digitalis* & A. (C.) *scabra* environment, spawning and reproductive cycles, *Fritchman*, H. K. (2); *A. scabra* measurement of cytochrome respiratory pigments, *Pablo & Tappel*.

†*Acmaea (Collisella) johannae* sp. nov. p. 57, pl. 2, fig. 3; Pleistocene, Grammichele, Sicily, *Malatesta*, A.

Acmaeidae of California; a study of the reproductive cycle, Parts I and II, *Fritchman*, H. K. (1).

Cellana radiata reactions to salinity changes, *Sukumar* & *Krishnaswamy*.

†*Damilina* gen. nov. p. 301 of *Damilinidae* fam. nov. genotype *Lepelopsis subrolunda* Perner 1903; Silurian, Budhanian, Kopanina beds; Mt. Kosov near Beroun, Bohemia, *Horný*, R.

†*Damilinidae* fam. nov. p. 301, of *Patellacea* for *Patellina*, *Damilina* and ? *Siluracmaea* q.v. Bohemia, Silurian, *Horný*, R.

†*Hampilina giospiri* (Helcionellidae), Cambrian, Mun'gyong district, S. Korea, *Kobayashi*, T. (2).

Notoacmaea (Conacmaea) daedala Lee Bay and the Gutter at Mason Bay, New Zealand, *Smith*, E.; *N. radula* pp. 292, 294; text-fig. 1; Akune Kagoshima Pref.; *N. nigrans* pp. 293, 295; text-fig. 2; Shionomisaki, Wakayama Pref.; *N. teramachii* pp. 293, 295; text-fig. 3; Akune Kagoshima Pref. spp. nov. Japan, *Kira*, T.

Patella coerules histochemistry of oocyte ergastoplasm, *Bolognari*, A. (2); *P. coerules* desiccation and resistance to desiccation, *Kristensen*, L.; *P. depressa*, *P. vulgata*, *P. aspera* & *P. lusitana*, intertidal patterns in shelter and exposure, Bay of Biscay, *Ballantine & Morton*; *P. depressa* & *P. vulgata* breeding behaviour, study of gonads and spawning, Trevone, N. Cornwall, *Orton & Southward*; *P. vulgata* tidal rhythm of oxygen consumption, *Fingerman*, M.; *P. vulgata* partially responsible for the removal of oil from contaminated shores, *George*, M.; *P. vulgata* steroid sulphatase, arylsulphatase and β -glucuronidase, *Leon*, *Bulbrook & Corner*; *P. vulgata* sulphatases, *Lloyd*, P. F. & K. O.; *P. vulgata* blood sugar levels, *Martin*, A. W.; *P. vulgata* histochemistry of the radula, *Runham*, N. W.; *P. vulgata* ability of β -glucuronidase preparation to hydrolyse glucosiduronic acids, *Wakabayashi & Fishman*.

†*Patella lencoranica* p. 11, pl. 1, fig. 1; Upper Talysh; *P. azerbaijanica* p. 12, pl. 1, figs. 2-6; Azerbaijan Eocene spp. nov., *Alizade & Baghmanov*.

†*Scurria elata* Kiparisova (in litt.) p. 150, pl. 23, figs. 4a, b; 5; Jurassic Vostok, U.S.S.R., *Petrova*, G. T. & *Krimholz*, G.; *S. impressa* sp. nov. p. 178, pl. 37, figs. 6-7; Kotel'nikov; Jurassic, European Russia, *Gherasimov*, A. P.

†*Siluracmaea* gen. nov. p. 302, of ? *Damilinidae* or familia incerta ? genotype *Palaeacmaea incerta* Perner 1903, Silurian Lochkovian, Lochkov limestone, Kosof near Prague, Bohemia, *Horný*, R.

TROCHACEA

Abyssogyra gen. nov. p. 352 Cyclostrematidae type species *A. vema* sp. nov. p. 353, pl. 3, fig. 4; station 49 (1497 fms., Atlantic Indian Antarctic Basin, S. of Traverse Is., South Sandwich Is.), Clarke, jr., A. H. (2).

Astle bularra sp. nov. trawled off Cape Moreton, Queensland; p. 10 pl. 2 f. 5. Garrard, T. A.

Benthobrookula subgen. nov. p. 354 of *Brookula*, subgenotype *Brookula* (*Benthobrookula*) *exquisita* sp. nov. p. 356, pl. 3, fig. 8; pl. 4, fig. 2; R/V Vema station 47, (2054 fms., 60 miles S. of S. Georgia); *B. (B.) powelli* p. 355, pl. 3, fig. 7; pl. 4, figs. 1, 9; R/V Vema station 12 (2805 fms. mid-Argentine basin, 1000 miles E.S.E. Buenos Aires); *B. (B.) lamonti* p. 357, pl. 4, fig. 3; R/V Vema station 47 (2054 fms. Scotia Sea, 60 miles S. of South Georgia); *B. (B.) capensis* p. 358 pl. 1, fig. 4; R/V Vema station 53 (2670 fms., Cape basin, 300 miles SW Capetown, S. Africa) spp. nov., Clarke, jr. A. H. (2).

Brookula (*Benthobrookula*) subgen. nov. p. 354 q.v., Clarke, jr., A. H. (2).

Calliostoma (*Tristichotrochus*) *alboregium* off Tosa 100 fms., Shikoku, Japan, p. 190, text fig. 1, Azuma, M. (1).

Cantharidus callichroa jessoensis breeding behaviour and ecology, Aomori Pref. Japan, Kojima, Y.

†*Chilodonta crespelli* sp. nov. p. 59, text-fig. 820; Maestrichtian Cretaceous, Torallola (Lérida) Spain, Bataller, J. R. (4).

†*Cochleochilus subvinctus* p. 173, pl. 39, figs. 3, 4; Mamonovo; *C. carinatus* p. 173, pl. 39, fig. 2; Yaroslavskaya province, spp. nov. Jurassic, European Russia, Gherasimov, A. P.

†*Delphinula luganensis* sp. nov. p. 132, f. 2-4. Lugan river, Northern Donbas district, Russia, Cretaceous, Blank, M. J.

†*Eoptychia? intermittens* sp. nov. p. 164, pl. 21, figs. 3, 4; Honey Creek, Henry Co., Missouri, Desmoinesian Carboniferous, Hoare, R. D.

Eotricolia gen. nov. p. 55 of Phasianellidae genotype *Phasianella megastoma*, Pilsbry, Japan, Kuroda & Habe.

Gibbula richardi resistance to desiccation, Kristensen, I.

†*Gibbula sylvae* sp. nov. p. 41, pl. 6, figs. 1-4; Kholmetskaya province Okrestnosti, Miocene, Tortonian, Amitrov, O. V.

†*Hemizygia* (*Plocezygia*) *convertacostata* p. 174, pl. 21, fig. 21; Honey Creek; *H. (Hypantozygia) filicosta* p. 175, pl. 21, fig. 23; Clinton; spp. nov. Henry Co., Missouri, Desmoinesian Carboniferous, Hoare, R. D.

Liotella (*Munditiella*) *kirai* sp. nov. figs. 1, 2; pp. 416, (422) Tanabe Bay, Wakayama Pref. Honshu, Japan, Habe, T. (10).

†*Liotia costulata* sp. nov. p. 105, text-fig. 42; Montian Cretaceous, Meskala Bouaboub region, Morocco, Salvan, H.

†*Livona pica* extinct in Bermuda but shells being used by hermit crabs, Solem, A. (2).

Margarites pilsbryi nom. nov. p. 65 for *Phorcus borealis* Pilsbry 1905 non Philippi, Japan, Kuroda & Habe.

Minolia subangulata sp. nov. p. 66, for *Solariella angulata* Yokoyama 1922 non Tokunaga, Japan, Kuroda & Habe.

Monodonta lineata function of the epipodium, Burdon-Jones & Desai; *M. turbinata* resistance to desiccation, Kristensen, I.

†*Muricotrochus? australiensis* sp. nov. Nanutarra formation, Western Australia, pp. 10 31 pl. 6 f. 5, 6a-c, 7, 8, Cox, L. R. (1).

Neocollonia gen. nov. p. 71 of Turbinidae genotype *Liotia pilula* Dunker 1860, Japan, Kuroda & Habe.

†*Omphalotrochus* Lower Permian, United States; *O. wolcampensis*—Wyoming, Utah, Nevada, Idaho; *O. whitneyi* California, Yochelson, E. L. (3).

†*Palaeostylus* (*Pseudozygopleura*) *eucharis* sp. nov. p. 170, pl. 21, figs. 13, 14; Honey Creek, Henry Co., Missouri, Desmoinesian Carboniferous, Hoare, R. D.

†*Palaeozygopleura* (*Palaeozygopleura*) *vostokovae* sp. nov. (Horny; M.S.) p. 1235 nom. nud. Coblenzian Devonian; Lek-Yelet river Polar Urals, Russia, Chernov, G. A.

Pellax huttoni range extended to Te Kaha, New Zealand, Warren P. (2).

Sequenzia louisiae sp. nov. p. 351, pl. 4, fig. 4; R/V Vema Station 51, (2507 fms., Agulhas basin, 1450 miles SW Capetown, S. Africa, Clarke, jr., A. H. (2).

Sericominolia gen. nov. p. 85 of Trochidae genotype *Minolia stearnsi* Pilsbry 1895, Japan, Kuroda & Habe.

Solariella nektonica sp. nov. p. 304, text-figs. 1-8; locality off Kushikino SW Kyushu; (31° 35' 3 N; 130° 06' 5 E depth 89 m, sandy bottom), swimming behaviour, Okutani, T. (1).

Stomatella halitiformis Kuroda & Habe (sp. nov.) pp. 270, 272; text-fig. 1; Amami Oshima, S. Kyushu, Japan, Habe, T. (7); *S. varia* from Swain's Reef, Queensland, Talmadge, R. E. (2).

Stomatolina sanguinea from Swain's Reef, Queensland, Talmadge, R. E. (2).

Tegula funebris measurement of cytochrome respiratory pigments, Pablo & Tappel; *T. funebris* eaten by octopus after hole drilled in shell, Pilsen & Taylor.

Thalotia aspera nom. nov. p. 90 for *Trochus elongatus* Wood 1825 non Sowerby 1818, Japan, Kuroda & Habe.

Tricolia affinis cruenta detailed anatomical study, Marcus, Ev. & Er. (3).

Tristichotrochus iwaotaki sp. nov. p. 296, off Tosa 80-100 fms.; text-fig. 3; Shikoku, Japan, Azuma, M. (3).

†*Trochus maoticus* "sp. nov." [in text] p. 332, pl. 3, figs. 23-25; Miocene, Russia, Andrusov, N. I. (4); *T. revillai* p. 57, text-fig. 818, *T. almela* p. 58, text-fig. 819, spp. nov. Maestrichtian Cretaceous, Sensui (Lérida) Spain, Bataller, J. R. (4).

Turbo cornutus vitamin B₆ content in extracts, Miyake & Hayashi; *T. cornutus* carbonic anhydrase activity in tissues, Shimizu & Fukuhara; *T. cornutus* determination of chemical constituents of the "meat" to elucidate reasons for differences in behaviour when cooked, Takahashi & Tanaka.

†*Turcica saitoi* sp. nov. p. 41, text-figs. 1-5; Miocene, Obanzawa-machi, Kita-Murayama-gun, Yamagata Pref., NE Honshu, Hatai & Kotaka.

LOXONEMATACEA

†*Brightonella* nom. nov. for *Brightonia* Casey 1961 non Kier 1957, Cretaceous, Sussex, Casey, R. (5).

†*Brightonia* gen. nov. [sed vide *Brightonia*] p. 590, of *Pseudomelanina*, genotype *B. turris* p. 591, Lower Greensand, Upware, Cambridgeshire, *B. sandlingensis* p. 591, text-fig. 12; Sandling Junction sandpit, Hythe, Kent, spp. nov. Casey, R. (4).

†*Loxonema lamellosa* sp. nov. p. 69 pl. 9, figs. 6-11; Carboniferous, Parish Cannindah, Co. Yarrol, Queensland, Maxwell, W. G. H.

†*Meekospira subconveza* sp. nov. p. 359 (383) pl. 7, figs. 14-15; Ordovician, Kemisbulak, Tagelak, Kepintagh, Sinkiang China, Yu, W. (3).

†*Pseudomelanina amurensis* Kiparisova (in litt.) p. 154, pl. 24, figs. 1-3; Jurassic, Vostok U.S.S.R., Petrova, G. T. in Krimholz, G.; P. (?) *mutabilis* sp. nov. p. 186, pl. 40, figs. 15-17; Smolensk, Bryansk, Jurassic, European Russia, Gherasimov, A. P.; P. *pupoides* "sp. nov." (in coll.) [in list], Cretaceous Azerbaidjan, Aliev, G. A. (1); P. *pupoides* sp. nov. p. 25, pl. 1, figs. 1a, b; pl. 2, figs. 1a, b; Azerbaidjan, Kubatinsk region, Cretaceous, Aliev, G. A. (3).

NERITACEA

†*Clithon (Vittoclithon) pictus striatus* subsp. nov. p. 631, pl. 33, figs. 11-17, Várpáloka and Ikerakna, Hungary, Miocene, Boda, J.

†*Corsania rochai* sp. nov. p. 61, text-fig. 822; Aptian Cretaceous, Punta de Aliaga, Ametlla de Mar (Tarragona), Spain, Bataller, J. R. (4).

†*Fedaiella kolymica* sp. nov. (= *Fedaiella* sp. nov. Sukacheva 1932) p. 124, pl. 25, figs. 15, 16; Kolyma River basin, Omolon region U.S.S.R., Trias, F. *maritima* Kiparisova (in litt.) p. 123, pl. 24, fig. 8; Sikhot-Alin, U.S.S.R., Kiparisova, L. D.

Georissa hukudai Kuroda sp. nov. p. 71; Okinawa Is., Kuroda, T. (1)

†*Hologyra tetyuchensis* Kiparisova (in litt.) p. 123, pl. 24, figs. 12, 13; Trias, Sikhot-Alin, U.S.S.R., Kiparisova, L. D.

Hydrocena monterosotiana limestone habitat, Malaya, Berry, A. J. (2).

†*Lissoschilus (Lyosoma) goñis* sp. nov. p. 60, text-fig. 821; Aptian Cretaceous; Mina Abandonada, Bilbao, Spain, Bataller, J. R. (4).

Nerita polita shells used by hermit crab, methods used by both to seal shell opening, Solem, A. (2); N. (*Ritena*) *scabricosta ornata* with *Hoploplanis luracola* sp. nov. a new commensal polyclad in the mantle cavity, Smith, E. H. (2).

†*Nerita (Peloronta) angustomoides* sp. nov. p. 34, pl. 5, figs. 1-4; Eocene, Southern Ukraine, Korobkov, I. A.; N. *gabrieliani* sp. nov. p. 20, pl. 1, fig. 10; Palaeogene, SW Armenia, Aslanyan, P. M. (1).

Neritidae, experiments on velocity of locomotion, Coomans, H. E. (2).

†*Neritina oxytropida* sp. nov. p. 657, pl. 6, figs. 29-31; Taman peninsula, Miocene, Russia, Andrusov, N. I. (9); N. (*Neritodonta*) *simulans* sp. nov. p. 63, pl. 2, figs. 20, 21; Kiten & Akman, Crimea, Miocene, Andrusov, N. I. (2).

Theodoxus danubialis new find at Lovázi, Zala, Hungary, Vársárhelyi, L.; T. *fluviatilis* list of parasites, Dollfus, R. P.; T. *fluviatilis* radula study, figs., Neumann, D.

†*Theodoxus mariae*, T. *crenulatus* & T. *oblongus*, Pannonian, Čejč, Czechoslovakia, Řehoř & Řehořová; T. *stefanescui*, Miocene, Negoiești (Giovra valley Olténie) Roumanian, Motas & Pătroescu.

†*Trachynerita praeculta* Kiparisova (in litt.) p. 122, pl. 24, fig. 11; Trias, Sikhot-Alin, U.S.S.R., Kiparisova, L. D.

COCCULINACEA

Saptadanta nasika [Lepetellidae] epizoic on *Pterocera lambis* shells, Rao, K. V.

CYCLOPHORACEA

Ampullaria canaliculata & *A. insularum* ecology and biology, Argentina, Bachmann, A. O. (1).

†*Campeloma liui* sp. nov. pp. 165, 175, pl. 1, figs. 1, 1a, 1b; Lower Cretaceous, Chinkongkou, Laiyang, Shantung, China, Chow, M. M.

Cipangopaludina observations on spermatozoa, Yoshida, S.

†*Cochlostoma septemspirale* photo., Quaternary, Hradist, Czechoslovakia, Ložek & Knebllová.

Cyclophorus turgidus radians (Pilsbry & Hirase MS.) subsp. nov. p. 71, Okinawa Is., Kuroda, T. (1).

Cytora ampla, Pandora & Unuwaho; C. *pallida*, Okuhu Valley near Kaitaia; C. *bicarinata*, Waipoua forest; C. *aranaea*, Herekino Gorge; C. *hedleyi*, Waitakere & Hunua ranges; New Zealand, Rees, R.

Diplommatina ventriculus limestone habitat, Malaya, Berry, A. J. (2).

†*Euchilus dehmi* p. 64, pl. 3, fig. 3; Upper Helvetian, Hinterholz near Simbach/Inn; E. *grimmii* p. 64, pl. 3, fig. 4; Upper Helvetian, Hitzenu near Simbach/Inn; E. *irenae* p. 65 pl. 3, fig. 5; Upper Helvetian, Unterkirchberg near Ulm spp. nov. Miocene Germany, Schlickum, W. R. (2).

Lanistes bottaneanus external sperm canal as seen in cross section of the penial sheath and penis, Michelson E. H. (1); L. (*Lanistes*) *carinatus* & L. (*Meladomus*) *purpureus* first records for Lower Jubaland, Somalia, biological significance, Maffi, M.; L. (*Meladomus*) *castaneus* new to the fauna of Somalia, Forcart, L. (2); L. *guineaensis* relict fauna of the Bandiagara plateau, Daget, J. (2).

Liarea hochstetteri carinella from Awakino Gorge and northwards in New Zealand, Warren, P. (1).

Malarinia gen. nov. p. 19, Cyclophoraceae [probably Diplommatinae, but also similarities with Cochlostominae] type species *M. hova* sp. nov. p. 19, fig. 10; Chutes de la Mort, Madagascar, Haas, F.

Marisa cornuarietis as a control of bilharzia by killing eggs of snail vectors, Muller, R. (1); M. *cornuarietis* control of *Australorbis glabratus* demonstrated by field trials, Radke, Ritchie & Ferguson; M. *rotula* shell repair experimental studies, Mallory & Crown.

Opisthostoma (Plectostoma) praeco p. 39, pl. 11, fig. 5; Batu Che Derani, Pahang; O. (*P.*) *laemodes* p. 40, pl. 11, fig. 6; Batu Tai Gadiah, Pahang; O. (*O.*) *atalum* p. 42, pl. 12, fig. 7; Gua Che Yatin, Pahang; O. (*O.*) *hypermicrum* p. 43, pl. 12, fig. 8; Bukit Chintamani, Pahang; O. (*O.*) *micridium* p. 43, pl. 13, fig. 9; Gunung Sinyum, Pahang; O. (*O.*) *fallax* p. 44, pl. 13, fig. 10; Sungai Siput, Perak; O. (*O.*) *perliensis* p. 45, pl. 14, fig. 11; Bukit Lagi, Perlis; O. (*O.*) *hemistrepium* p. 46, pl. 14, fig. 12; Ulu Kenyam Kechil, Pahang; Malaya sp. nov., Jutting, W. S. S. v. B. (3); O. (*Plectostoma*) *retrovertens* & O. (*Opisthostoma*) *hypermicrum* habitat on limestone, Malaya, Berry, A. J. (2).

Paludina lustrica Say 1821 proposal to suppress the specific name for the purposes of the Law of Priority but not for those of the Law of Homonymy; P. *limosa* Say 1817 proposal to place the specific name on the Official List, Baker, H. B. (8); (*Paludina*) *Viviparus marnyanus* p. 278 pl. 45, fig. 10; Predgornoye region, Crimea; V.

turgicus p. 283, pl. 36, figs. 9-14; *V. meridionalis* p. 285, pl. 45, figs. 1-8; *V. elatior-pseudoturritus* p. 285, pl. 41, figs. 17-21; Tamanskiy; *V. tanae* p. 288; *V. ovidii naonisi* p. 293, pl. 46, figs. 1-2; pl. 47, figs. 1-8; Reni region; *V. omisus* p. 296, pl. 41, figs. 1-8; Kama, Kamakoye region; *V. lungershauseni* p. 297, pl. 40, figs. 6-18; Odessa, Ukraine; *V. pseudomotruensis* p. 298; *V. subzickendrathi* p. 299; *V. proserpinæ* p. 299, pl. 42, figs. 9-18; *V. turritus* p. 300, pl. 42, figs. 20-28; Elabuga; *V. elatior* p. 301, pl. 42, fig. 19; Podgornskiy; *V. mangiki-ani* p. 301, pl. 42, figs. 3-4, 7-8; Podgornskiy region; spp. nov. U.S.S.R., Bogachev, V. V. (2).

Pila ovata dartvellei subsp. nov. p. 17, text-fig. p. 17; Elisabethville Katanga, Belgian Congo, Pain, T.; *P. speciosa* first record for Lower Jubaland, Somalia, biological significance, Maff, M.

Platyrhaphe hirasei yokokunijimanus (Hirase MS) subsp. nov. p. 71, Okinawa Is. *P. h. yaeyamensis* subsp. nov. p. 72, Okinawa Is., Kuroda, T. (1).

Pomacea haustum & *P. canaliculata* (♂ & ♀) study of sex chromatin, Chagas, Procopio-Valle & Barth; *P. paludosa* internal sperm canal as seen in cross-section of the penial sheath and penis, Michelson, E. H. (1).

Tulotoma magnifica endemic to the Alabama River system, Athearn, H. (2).

Vivipara vivipara parasites, Dollfus, R. P.; *Vivipara vivipara* neurosecretion; morphology & anatomy of nervous system, Gorf, A.

†*Vivipara neumayri incerta* var. nov. p. 322, pl. 5, figs. 72-76; Dacian, Alexandreni (Satalac-Hagi); Miocene, Bessarabia, Roumania, Macarovic, N.

Viviparus vide etiam *Paludina*; *Viviparus malleatus* spermatogenesis, Gall, J. G.; *V. viviparus* influence of physico-chemical agents on the succinic acid dehydrogenase activity, Obuchowicz & Kostecki; *V. viviparus* succinoxidase complex (SOX) in the hepatopancreas, Obuchowicz & Urbanska.

†*Viviparus sinzovi praeglacialis* subsp. nov. p. 1427; *V. achatiniformis* sp. nov. p. 1427; Tiraspol, Kolkotova ravine, Quaternary, Dnestr terraces, Russia [not described, mentioned in text], Ivanova & Popov; *V. šukljei* sp. nov. p. 71, pl. 3, figs. 1-4; Pliocene, Čapljja, Yugoslavia, Jenko, K. (1).

VALVATACEA

Valvata piscinalis oxygen consumption experiments, Berg, K.; *V. piscinalis* parasites listed, Dollfus, R. P.; *V. piscinalis* population study in Loch Lomond, Hunter, W. E. (2); *V. piscinalis alpestris* Küster, breeding, figs., Oberzeller, E.; *V. piscinalis* filtration method of feeding, Tsikhon-Lukanina, E. A. (1); *V. piscinalis* filtration feeding and food concentration, Tsikhon-Lukanina, E. A. (2).

†*Valvata windhauseni* p. 16, pl. 1, figs. 1-6 sp. nov. from Nahuel Niyeu (25 miles W. of Valcheta), Rio Negro province, Argentina, Parodiz, J. J. (1).

LITTORINACEA

†*Acme polita* photo., interglacial, Předmosti, Czechoslovakia, Lošek, V. (10).

†*Amblerya pulchra* sp. nov. p. 172, pl. 39, fig. 11; Kaluzhskaya province, Kremenskoye; Jurassic, European Russia, Gherasimov, A. P.

Chondropoma callipeplum Wani, Nicaragua p. 207, pl. 11, f. 21, pl. 12, f. 24r. sp. nov., Solem, A. (5).

Cyclostoma [= *Pomatias* Studer] *elegans* protozoan parasites, Dollfus, R. P.; *C. sulcatum* and *C. elegans* symbiotic with *Pseudomonas fluorescens*, Mahdihassan, S.

†*Eunema ventricosa* sp. nov. p. 357 (381), pl. 8, figs. 3-4; Ordovician, Kaomeishite-bulak, Yimgantau Sinkiang, China, Yu, W. (3).

Ezolittrina gen. nov. p. 9 of Littorinidae genotype *E. squalida* (Broderip & Sowerby 1829) p. 9, pl. 1, fig. 22; pl. 4, fig. 9; Akkeshi Bay lower tide mark, distribution, Hokkaido, Kuriles and Aleutians, Habe, T. (1).

Horiotostoma Fischer 1885, proposal to reject this name as an invalid emendation of *Oriostoma* Munier-Chalmas 1876, Knight, Batten & Yochelson.

Horiotostomatidae Koken 1897, proposal that this name be suppressed and placed on the Official Index of Rejected Names, Knight, Batten & Yochelson.

Leonia mamillare symbiotic with *Pseudomonas fluorescens*, Mahdihassan, S.

Littorina incisa Yokoyama 1927, belongs to the genus *Menestho*, Oyama, K. (3); *L. littoralis* mechanism of orientation to polarized light, Charles, G. H. (2); *L. littoralis*, *L. saxatilis*, *L. neritoides* & *L. littorea* response of the foot to the plane of vibration of polarized light, Charles, G. H. (3); *L. littorea*, *L. saxatilis*, *L. neritoides* & *L. littoralis* orientation to polarized light, Charles, G. H. (1); *L. littorea* found in Micmac Indian camp sites in Nova Scotia, Clarke, Jr., & Erskine; *L. littorea*, *L. littoralis*, *L. saxatilis* & *L. neritoides*; distribution, food and predators, the "winkle industry," reproduction, external morphology, anatomy, physiology and relationship to pollution (Clay, E.) (2); *L. littorea* early records from the coast of Massachusetts, Dexter, R. W. (2); *L. littorea* a deformed example, Le Faucheur, D.; *L. neritoides* collected off Arcachon, Amanieu & Cazaux; *L. neritoides* intertidal zonation, St. Jean de Luz, SW France, Ballantine & Morton; *L. neritoides* resistance to high temperatures, Fraenkel, G.; *L. obtusata* magne form. nov. p. 273 f. 1, Roscoff, France; ecological & polychromatic study of *L. obtusata* at Roscoff, Sacchi, C. F. (2); *L. punctata* orientated movements, Brafield, A. E.; *L. punctata* behaviour patterns when disturbed, Ghana, Evans, F.; *L. rudis* periods of activity coinciding with incidence of spring tides (every 15 days), Fingerma, M.; *L. saxatilis* factors affecting distribution, Berry, A. J. (1); *L. saxatilis* comparison of shells from French coasts and the Iberian peninsula, Fischer-Piette & Gaillard; *L. saxatilis interrupta* p. 321, figs. 1, 2; Belle-Ile (Castoul beach); *L. s. trachibus* p. 321, fig. 3; Barriça; *L. s. hieroglyphica* p. 321, fig. 4; Barriça vars. nov. Iberian peninsula, Fischer-Piette, Gaillard & Jouin.

†*Littorina praepontica* sp. nov. p. 85, pl. 4, figs. 6, 7; Karantin, Crimea, Miocene, Andrusov, N. I. (2).

Oriostoma Munier-Chalmas 1876, type-species *O. barandei* Munier-Chalmas 1876; proposal that these names be placed on the Official List, Knight, Batten & Yochelson.

Oriostomatidae Wenz 1938 (type genus *Oriostoma* Munier-Chalmas 1876) proposal to place this name on the Official List of Family Group Names, Knight, Batten & Yochelson.

Pomatias [vide etiam *Cyclostoma*] *elegans*, a land snail from the seashores of Denmark, Bondesen, F.; *P. elegans* development of ♀ reproductive organs, Ducros, C.; *P. elegans* (O. F. Müller) occurrence in Southern Zealand, Schlesch, H.

†*Trochonema* ? *puchangshanensis* sp. nov. p. 356 (380), pl. 8, figs. 5-6; Ordovician, Puchangshan, Kepin district, Sinkiang, China, Yu, W. (3).

Tudora (*Tudorata*) *thomasi* sp. nov. Rio Puente, Madden Lake Canal Zone, p. 208, pl. 11, f. 23; pl. 12, f. 24s, Solem, A. (5).

†*Umbonellina inflata* sp. nov. p. 358 (383), pl. 2, figs. 17-18; Ordovician, Kaomeishite-bulak, Yimgantau, Sinkiang, China, Yu, W. (3).

RISSOACEA

Akiyoshia (*Sagana*) *nanatsugamaensis* pp. 275, 276; text-fig. 2; Nanatsugama limestone cave, Saikai-mura, Nishisonokigun Nagaaki Pref. Kyushu; A. (8.) *imamurai* pp. 275, 277; text-fig. 1; Mito City, Ibaraki Pref. Honshu, spp. nov. Japan, Habe, T. (8).

Allepiptema nagayamai sp. nov. p. 73, Okinawa Is., Kuroda, T. (1).

Amnicola Gould & Haldeman 1840, type, sp. by designation by Herrmannsen 1846, *Paludina porata* Say 1821, proposal to place *Amnicola* on the Official List of Generic Names; A. *lacustris* Pilsbry 1891, proposal to reject the specific name as an erroneous spelling for, or a junior objective synonym of *A. lustrica* Pilsbry 1890, proposal to place *lustrica* on the Official List of Specific Names, Baker, H. B. (8); A. *limosa*, hatching process, figs., Davis, C. C.

Amnicolides Tryon 1862 (type genus *Amnicola* Gould & Haldeman 1840) (for use by zoologists who consider *Amnicola* not referable to any family-group taxon having an older name) proposal to be placed on the Official List, Baker, H. B. (8).

Assimineia grayana from the littoral zone of Danish beaches, Bondesen, P.; A. *grayana* figs. ♀ reproductive system & general anatomical study, Fretter & Patil; A. *grayana* Leach discovered in the swamps of the Bassee-Seine, Maury, A. (8).

Avenionia bourguignati from subterranean water in Holland, Stock, J. H.

†*Baicalia koshovii* p. 12, Miocene, B. *duthiersioides* p. 13, Pliocene; B. *proherderiana* p. 14, B. *wrzesniowskioides* p. 14, B. *pseudoelegantula* p. 14, Miocene; spp. nov. Transbaikalia, Russia, Naletov, P. I.

Barleeia rubra figs. ♂ reproductive system, general observations, Fretter & Patil.

Belgrandia torifera sp. nov. Vrgorac, Dalmatia, p. 143, fig. 4, Schütt, H. (3).

Bithynia leachi oxygen consumption experiments, Berg, K.; B. *tentaculata* survival in diluted seawater, Klekowski, R. Z. (2); B. *tentaculata* factors limiting its range and conditions necessary for its spread, Macan, T. T.; B. *tentaculata* filtration method of feeding, Tsikhon-Lukanina, E. A. (1); B. *tentaculata* filtration feeding and food concentration, Tsikhon-Lukanina, E. A. (2).

Bulimidae species infected by soil protozoa, Burch, J. B. (2).

Bythinella dunkeri underground aquatic mollusc from Holland, Stock, J. H.; B. (*Moria*) *kikuchi* sp. nov. pp. 164, 165, text. f. 1., Mt. Hikosan, Kyushu, Japan, Habe, T. (5).

†*Bythinella austriaca* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Knebová.

Bythinia [vide etiam *Bithynia*] *tentaculata* list of parasites, Doffus, R. P.

Choriatas agulhasae sp. nov. p. 361, pl. 3, fig. 1; RV/Vema Station 51 (2507 fms. Agulhas basin, 1000 miles SW Capetown, S. Africa); C. *agulhasae argentineae* subsp. nov. p. 361, pl. 3, figs. 2, 3; R/V Vema Station 12 (2805 fms. mid-Argentine basin, 1000 miles ESE Buenos Aires), Clarke, A. H., jr. (2).

Cingula semicostata & C. *cingillus* figs. ♂ reproductive system, C. *semicostata* & C. *semistriata* figs. ♀ reproductive system, general observations, Fretter & Patil.

†*Coelanthia* gen. nov. p. 83 of Rissoidae genotype C. *quadriscopiosa* sp. nov. p. 84, Chonghelek, Crimea, Miocene, Andrusov, N. I. (2).

Crysiella kajiyamai Habe (sp. nov.) pp. 271, 273; text-fig. 3; Kakeroma-jima S. of Amami Oshima, Kagoshima Pref., Japan, Habe, T. (7).

Euamnicola Fischer & Crosse 1891, proposal to place this generic name on the Rejected List as a junior objective synonym of *Amnicola* Gould & Haldeman 1840, Baker, H. B. (8).

Falsicingula gen. nov. p. 6 of Rissoidae genotype F. *kurilensis* (Pilsbry) p. 6, pl. 2, fig. 7; pl. 3, fig. 21; Akkeshi Bay on eel-grass leaves, Hokkaido and Kuriles distribution, Habe, T. (1).

Horatia a review of the genus, H. (*Horatia*) *knorri* sp. nov. p. 75, text-fig. 1, Dubrovnik, Schütt, H. (1); H. (*Hauftenia*) *edlaui* sp. nov. Dalmatia, Svitavsko Blato; p. 140, f. 1, Schütt, H. (3).

Hydrobia (= *Potamopyrgus*) *jenkinsi* spread in Britain and range limiting factors, Macan, T. T.; H. *jenkinsi* new to the fauna of Normandy, Maury, A. (7); H. *stagnorum* (Gmelin), H. *ulvae* (Pennant)—ecology—parasitology relationship, figs., Honer, M. R. (1); H. *ulvae*, orientated movements, Brafield, A. E.; H. *ulvae* & H. *ventrosa* nomenclature, distribution, habitat, food and predators, reproduction, external morphology, commensals and parasites, anatomy, physiology and resistance to pollution, [Clay, E.] (1); H. *ulvae* figs. ♂ and ♀ reproductive systems, alimentary canal and general anatomy, Fretter & Patil; H. *ulvae* it's parasites & ecology, Honer, M. R. (2); H. *ulvae* behaviour of adult populations, Newell, R.; H. *ventrosa* role in the life cycle of two trematodes in the Camargue, Rébecq, J.

†*Hydrobia trochus* p. 67, pl. 3, fig. 7; Karantin; H. *ossovianum* p. 68, pl. 3, figs. 5-6; Ossovin; H. *striatocarinata* p. 68, pl. 4, fig. 5; Yangshah-Takili; H. *laminatocarinata* p. 68, pl. 3, fig. 4; Kapkan; H. *panticapaea* p. 69, pl. 3, figs. 1, 2; Voronovskogho, spp. nov. Miocene, Crimea and Caucasus, Andrusov, N. I. (2); H. *ventrosa* Mainz basin, Koenderink, A. G.

Hydrobiidae from Lake Pontchartrain Louisiana, Solem, A. (4).

Ishimoria gen. nov. p. 72 of Rissoidae? genotype, I. *lamellata* sp. nov. p. 72, pl. 1, figs. 8, 9; Okinawa Is., Kuroda, T. (1).

Katayama formosana shini subsp. nov. pp. 279, 280; text-fig. 1; ridges between rice fields from Kubera Dake to Hikawa, Yonakunijima, Yaeyama Group Ryukyu Archipelago, intermediate host of *Schistosoma japonicum*, Habe, T. (9).

Kuiperia gen. nov. Hydrobiidae p. 63 genotype *Cyclostoma clandestinum* Deshayes, Schliekum, W. R. (2).

Lanzaia edlaui sp. nov. Svitavsko Blato, Dalmatia, p. 141, f. 2, Schütt, H. (3).

†*Liobaicalia subtidale* "sp. nov." p. 13 Miocene, Baikal region ASSR, Naletov, P. I.

Lithoglyphus naticoides photo., Xantener Altheim, Miegel, H. (2).

†*Lithoglyphus pseudoenchilus* p. 12, "sp. nov." Miocene, Buryat, ASSR, Naletov, P. I.

†*Maotidia* gen. nov. p. 84 of Rissoidae genotype M. *bucculenta* sp. nov. p. 84, pl. 3, figs. 20, 21; Crimea and Caucasus, Miocene, Andrusov, N. I. (2).

Marstonia F. C. Baker 1926, type sp. *Amnicola lustrica* Pilsbry 1890, proposal to place *Marstonia* on the Official List of Generic Names, Baker, H. B. (8).

†*Micromelania turritissima* p. 77, *M. bosporana* p. 78, *M. striata* p. 78, Karantin; *M. carinata* p. 79, Ossovin; *M. aberrans* p. 79, pl. 4, figs. 8, 9; Karantin spp. nov. Miocene, Crimea and Caucasus, Andrusov, N. I. (2).

Munditiella gen. nov. p. 68 of Tornidae genotype *Cyclostrema ammonoceras* A. Adams 1863, Japan, Kuroda & Habe.

Nannoteretispira gen. nov. pp. 271, 273; Rissoidae type species *N. japonica* pp. 271, 273; text-fig. 2; Shikanooshima Hakata Bay, Fukuoka Pref., Kyushu, Japan, sp. nov. Habe, T. (7).

Nematurella bavarica (Sandberger) systematic position in Hydrobiidae, Schlickum, W. R. (1).

Neohoratia subgen. nov. p. 71 of *Horatia*, subgenotype *Valvata subpiscinalis* Kuster, Schütt, H. (1).

Oncomelania nosophora attempted infection with *Acanthamoeba*, Getz, L. L.; *O. nosophora* general study on taxis, Kawamoto, S.; *O. nosophora* control in Japan, Komiya, Y.; *O. nosophora* & *O. hupensis* growth difference between sexes, Komiya & Kojima; *O. nosophora* resistance to molluscicides in Japan, Komiya, Yasuroaka & Hosaka; *O. nosophora* effects of molluscicides, Williams & Ritchie; *O. quadrasi* ecological control in the Philippines, Hairston & Santos; *O. quadrasi* effect of control on spread and prevalence of *Schistosoma japonicum* in the Philippines, Pesigan & Hairston.

Peringia ulvae Havre region, France, Maury, A. (6).

Plagigeyria edlaui p. 132 f. 1; *P. klemmi* p. 133, f. 2; *P. pageti* p. 134, f. 3; spp. nov. *P. pageti minor* p. 136 subsp. nov. new forms from Dalmatia, Schütt, H. (2).

Pomatiopsis cincinnatiensis comparisons of moisture requirements of adults and young, Schalie & Getz; *P. lapidaria* host of the American lung fluke found in Louisiana, Sogandares-Bernal & Abdel-Malek.

Potamopyrgus jenkinsi, nomenclature, distribution, habitat, food and predators, reproduction, external morphology, origin and dispersal, commensals and parasites, anatomy, physiology and resistance to pollution, [Clay, E.] (1); *P. jenkinsi* figs. ♂ and ♀ reproductive systems, alimentary system, Fretter & Patil; *P. jenkinsi* in Portugal, note, Heuss, K.

Probythinella lacustris himafodens addition to the Oklahoma fauna, ecology and distribution, Branson, B. A. (1); *P. protera* a Pliocene species from Florida alive in Lake Pontchartrain, Solem, A. (4).

Pseudamnicola reatina sp. nov. p. 538, text-fig. 1A-E; Peschiera river, Rieti Valley (Lazio) Italy, Stella, E.; *P. uzelliana*, Kevir-i-Namak, *P. kotschyi*, Dorf Gahel; Iran, Starmühlner, F.

Pygmaerota gen. nov. p. 80 of Tornidae genotype *Cyclostrema duplicatum* Lischke, Japan, Kuroda & Habe; *P. choiensis* sp. nov. pp. 417 (424) Choshi, Chiba Pref., *P. (Soyorota) soyocae* subgen. & sp. nov. pp. 417 (425) Hamashima, Mie Pref., Honshu Japan, Habe, T. (10).

Pyramidelloides (Costabieta) tosaensis sp. nov. Tosa Bay, Shikoku, Japan pp. 416, (422), f. 7, Habe, T. (10).

†*Pyrgula margaritifformis* "sp. nov." [in text] p. 333; *P. brunnata* "sp. nov." [in text] p. 334, Miocene, Russia, Andrusov, N. I. (4); *P. sinzovii* p. 70, pl. 3, figs. 10, 11; Kiten; *P. striata* p. 71, pl. 3, figs. 12, 13; Karantin; *P. pagodaeformis* p. 71, pl. 3, figs. 16-18; Ossovin; *P. purpurina* p. 72, pl. 3, fig. 3; Karantin; spp. nov. Miocene, Crimea and Caucasus, Andrusov, N. I. (2).

Rissoa parva figs. ♂ and ♀ reproductive system, general study, Fretter & Patil; *R. parva* calcium reserves during shell construction, Gostan, G.

†*Rissoa (Mohrensternia) grandis* "sp. nov." p. 459, text-fig. 52; Kerch peninsula, Miocene, Russia, Andrusov, N. I. (7); *R. (Mohrensternia) protogena* p. 81; *R. (M.) grandis* p. 81; *R. (M.) barbotii* p. 81; *R. (M.) subinflata* p. 82, pl. 4, figs. 2-4; *R. (M.) subangulata* p. 83, pl. 4, fig. 1; Ossovin; *R. (M.) carinata* p. 83, Chonghelek; spp. nov. Miocene, Crimea and Caucasus, Andrusov, N. I. (2); *R. (Mohrensternia) pseudalvania* "sp. nov." p. 336, pl. 3, figs. 26, 27; [in text] Miocene, Russia, Andrusov, N. I. (4).

Rissoella genera, subgenera & species, a catalogue concluded, Robertson, R. (3); *R. galba* sp. nov. pp. 131, 135, pl. 9, fig. 1; NW end of South Bimini, Bahama Islands, *R. caribaea* also figured, Robertson, R. (2).

Rissoinidae taxonomic study, Militante, P. J.

Sazurinator dalmaticus sp. nov. Dalmatia, Svitavsko Blato p. 142, f. 3, Schütt, H. (3).

Schuettemmericia subgen. nov. p. 62 of *Hydrobia*, subgenotype *Hydrobia subpyrenaica* Noulet, Schlickum, W. R. (2).

Setia inflata fig. living animal ventral view, radula, extension of range to Kames Bay, Millport, Scotland, Fretter & Patil.

Soapitia gen. nov. p. 11, Hydrobiidae genotype *S. dageti* sp. nov. p. 12, text-figs. 1-5; River Konkouré, Soapiti, New Guinea, Binder, E.

Soyorota subgen. nov. pp. 417 (425) of *Pygmaerota* q.v., Habe, T. (10).

Staditia gen. nov. p. 63 of Hydrobiidae genotype *Staditia allardi* Roman, Schlickum, W. R. (2).

Taheitia oagariensis sp. nov. p. 72 Okinawa Is., Kuroda, T. (1).

CERITHIACEA

Amphimelania holandri found at Lovászi, Zala, Hungary, Vászárhelyi, I.

Architectonica nobilis [?]nobilis photo., shell structure, general ecology, Voss, G. L.

†*Batillaria multiformis* shell structure & stratigraphical significance, Pleistocene, South Kanto, Japan, Nagasawa, J.

Biconia contorta Carpenter 1857 [= *Vermetus contortus* Carpenter] selected as type species of *Thylacodus* Mörch 1860, and *Thylacodus* Mörch 1860, lectotype selected, Keen, A. M. (4);

†*Ceritella (Ceritellopsis) petri* subgen. nov. p. 152, Bathonian Jurassic, France, Fischer, J.-C. (2).

†*Ceritellopsis* subgen. nov. p. 152 of *Ceritella* q.v., Fischer, J.-C. (2).

†*Cerithium bosporanum* sp. nov. p. 86, pl. 4, fig. 10; Mitridat Mts., Crimea, Miocene, Andrusov, N. I. (2); *C. orientale* "sp. nov." [in a list] p. 363 Miocene, Caspian region, Russia, Andrusov, N. I. (5).

Clathrofenella gen. nov. p. 46 of Diastomidae genotype *Dunkeria reticulata* A. Adams, Japan, Kuroda & Habe.

†*Cryptaulax pseudoechinata* sp. nov. p. 191, pl. 40, figs. 6, 7; Kaluzhskaya province; Jurassic, European Russia, Gherasimov, A. P.

†*Diastoma daralagesica* sp. nov. p. 7, pl. 1, fig. 6; Oligocene, Armenia, Aslanyan, P. M. (2); *D. daralagesica* "sp. nov." p. 933 [in a table] text-fig. 1j; Keana-Molla level, Oligocene, Western Daralagez, SW Armenia, Aslanyan, P. M. (4).

Fagotia acicularis found at Lovászi, Zala, Hungary, Vászárhelyi, I.

†*Faunus meskalensis* sp. nov. p. 137 pl. 9, fig. 11; Meskala Morocco, Maestrichtian Cretaceous, **Salvan, H.**
Goniobasis edgariana cave dwelling, De Kalb Co. Tennessee, **Barr, T. C.**

10 studies on the genus, egg laying and hatching, **Dazo, B. C.**

†*Mathildidae*, Miocene, Austria, figs., **Sieber, R.**

Melania (Melanoides) tuberculata fig., Dorf Ab-chorg, Iran, **Starmühlner, F.**

†*Melania muricata* Cretaceous Lauzanier, **Gubler, Y.**

Melanoides tuberculata radioactive calcium study of shell calcium, **Klein & Traut.**

Melanopsis collection in New Caledonia, ecology and habitat notes, **Morrison, J. P. E. (2); M. doriae** Özbağ-kub; *M. praerosa* Dasht-e-bu; & *M. kotschy* figs., Iran, **Starmühlner, F.**; *M. praerosa* from Iraq shell covered with a deposit of CaCO_3 and Mn_2CO_3 with traces of PO_4 , Ba and Sr. **Najim, A. T.**

†*Melanopsis carinata* & *M. subcarinata* Cretaceous, Lauzanier, **Gubler, Y.**

†*Mesalia (Mesalia) nikopolitana* sp. nov. p. 38, pl. 5, figs. 5, 6; Eocene, Southern Ukraine, **Korobkov, I. A.**

Pelatoconchus macrophragma Carpenter 1857, lectotype selected, text-figs. 22-25, p. 197, **Keen, A. M. (4).**

Pleuroceridae comparison of the central nervous system of 9 species, **Rosewater, J. (2).**

†*Potamidites caspius* "sp. nov." [in a table] p. 372, Miocene, Caspian region, Russia, **Andrusov, N. I. (5); P. moreti sp. nov. p. 142 text-fig. 57; Tamdakht Morocco, Lutetian Cretaceous, **Salvan, H.****

†*Proceritella* gen. nov. p. 141 of Ceritellidae genotype *Pleurotomaria murchisoni*, Jurassic, France, **Fischer, J.-C. (2).**

†*Procerithium (Rhabdocolpus) brunnschweileri* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10 33, pl. 7, fig. 7a, b, **Cox, L. R. (1); P. volgensis sp. nov. p. 189, pl. 40, figs. 13, 14; Rybinsk region; Jurassic, European Russia, **Gherasimov, A. P.****

†*Ptygmatis convexospirata* sp. nov. p. 939, pl. 1, figs. 2-5; Sulejów near Piotrków Tryb., Święty Krzyż Mts., Poland, Astartian limestones Jurassic, **Karczewski, L.**

†*Pyrazus coloi* sp. nov. p. 141, pl. 9, fig. 6; Timhadit, Atlas Mts., Morocco, Lutetian Cretaceous, **Salvan, H.**; *P. multivaricosus* sp. nov. p. 37, pl. 5, fig. 14; Eocene, Southern Ukraine, **Korobkov, I. A.**

†*Pyrulifera glypta* status and characteristics of the species and on the genus, tables and figures, **Rey, R.**

Russetia dilaniatus gen. et sp. nov. trawled in 160 fms. east of Newcastle, Australia, p. 23, pl. 1, fig. 11a, b, Architectonicidae, **Garrard, T. A.**

Schizomatidae Eichwald 1871, proposal that this name be suppressed and placed on the Official Index of Rejected Names, **Knight, Batten & Yochelson.**

Semisulcospira observations on spermatozoa, **Yoshida, S. S. kuroda sp. nov. p. 168, 173, fig. 1-3, Yakamishin, Hyōgo Pref.; *S. decipiens reticulata* subsp. nov. pp. 171, 175, fig. 6, 6a, off Okinoshima in Lake Biwa, Japan, **Kajiyama & Habe.****

Serpulorbis polyphragma Sassi 1827 [= *Serpula arenaria* Linné 1758] selected as type species of *Thylacodes* Mörch 1862 text. fig. 14, p. 195, **Keen, A. M. (4); S. validus sp. nov. p. 85 for *Thylacodes medusae* (pars) Pilabry 1892, Japan, **Kuroda & Habe.****

Siphonium lituella Mörch 1861, selected as the type species of *Dendropoma* Mörch, text-figs. 26-29, p. 199, lectotype selected also for *S. (D.) leucozonius* Mörch, **Keen, A. M. (4).**

†*Theridium (Theridium) lividulum antiquum* subsp. nov. p. 95, pl. 4, fig. 4; Pleistocene, Grammichele, Sicily, **Malatesta, A.**

Triphora (Infusoria) bellula p. 313, pl. 19, fig. 10; text-fig. 2; *T. (I.) albogranosa* p. 313, pl. 19, fig. 7; text-figs. 5, 7; *T. (I.) fusiformis* p. 314, pl. 19, fig. 4; text-figs. 1, 4; *T. (Triphora) alba* p. 314, pl. 19, fig. 2; text-figs. 3, 6; spp. nov. Ankyaba, Setouchi-machi, Amami Islands, Japan, **Kosuge, S. (1).**

Triphoridae of the Amami Islands, **Kosuge, S. (2).**

Tripsycha gen. nov. p. 196 of Vermetidae type sp. *Vermetus tripsycha* p. 196 text-figs. 16-20; West Mexico, **Keen, A. M. (4).**

Turritella communis spermatogenesis, **Idelman, S.**; *T. sanguinea* pl. 4, fig. 15; does not appear to have been recognized since Reeve's original description, here taken from Cabo Haro, Guaymas, Sonora Mexico, **Shasky, D. R. (4); T. triplicata deep water faunal associations. **Jacquotte, R.****

†*Turritella alumenensis* containing 48 young from the Miocene of Alum Bluff, Florida, **Palmer, K. V. W. (2); T. maridillani sp. nov. p. 114, pl. 46, figs. 2, 3; Miocene, Arenales de Santa Catalina, Las Palmas, **Martel Sangil, M. (1); T. meroensis, Tertiary, Borchina Colombia, **Olsson & Richards; T. (Haustator) partachi perangulata subsp. nov. p. 238, pl. 1, fig. 1; pl. 3, figs. 8-iv; Grösel, SW Steiermark; *T. (H.) p. quadricarinata* subsp. nov. p. 238, pl. 1, figs. 3, 4; pl. 3, fig. 8-v; Kreuzschaller, Wetzelsdorf-Berg; *T. (H.) badensis plana* p. 240, pl. 1, fig. 32; Windpassing, Grund; *T. (H.) b. carinata* p. 241, pl. 1, fig. 24; pl. 3, fig. 8-vii; Soos, Baden; *T. (Turritella) f. terebralis eggenburgensis* p. 249; Nondorf Eggenburg; *T. (Torculoidella) bicarinata levis* p. 258, pl. 2, fig. 22; Russbach; *T. (Torculoidella) scalaria praescalaris* p. 259, pl. 2, fig. 24, 26; Steinsbrunn; subsp. nov. *T. (Torculoidella) praeviridosa* sp. nov. p. 260, pl. 2, fig. 28; pl. 3, fig. 8-xx; Windpassing; Austria, Miocene, **Sieber, R.**; *T. petitiotiana* p. 116, pl. 8, figs. 20-22; text-fig. 45; *T. jansseani* p. 128, pl. 8, fig. 13; text-fig. 54; spp. nov. Gannetour, Morocco, Lutetian Cretaceous, **Salvan, H.**; *T. triplicata incassata* figs., Pliocene, mouth of the West-Scheldt, **Moraal, J. M. (1).********

†*Turritellidae*, Miocene Austria figs., **Sieber, R.**

†*Tympanotonus* study of amount of shell remaining in Tertiary specimens from Château-Thierry, France, **Titler, A.-M.; T. nostratis sp. nov. p. 35, pl. 5, figs. 7-13; Eocene, Southern Ukraine, **Korobkov, I. A.****

†*Vermetidae* non-pelagic development and egg nourishment, Miocene, **Schmidt, W. J.**

Vermetus adansonii Daudin 1800, text-figs. 4-7, lectotype selected, and also for *V. after Gmelin* 1791, **Keen, A. M. (4); V. intortus fig. Pliocene, mouth of the West Scheldt, **Moraal, J. M. (1); V. intortus size of embryonic whorls, non-pelagic development and egg nourishment in Tortonian forms, **Schmidt, W. J.**; *V. melanderi* sp. nov. p. 121, pl. 47, fig. 6; Miocene, estratos de Santa Catalina, Las Palmas, **Martel Sangil, M. (1).******

Vermicularia spirata photo., shell untwisting in growth, general ecology, **Voss, G. L.**

AMALTHEACEA

†*Vanikoro psammobia* sp. nov. p. 176, pl. 42, figs. 7-9; Ukhtoma region; Jurassic, European Russia, **Gherasimov, A. P.**

CALYPTRAEACEA

Amamiconcha sakurai sp. nov. pp. 417 (423), fig. 11; Kakeroma-jima, Amami-Oshima, Kagoshima Pref. Japan, Habe, T. (10).

Calyptrea chinensis reproduction, growth and distribution, Wyatt, H. V. (1); *C. chinensis* and *C. pellucida* duration of embryonic life, Wyatt, H. V. (2); *C. sinensis* spermiogenesis and cytoplasmic elimination, Streiff, W.

Capulus sericeus sp. nov. p. 19, pl. 2 trawled off Cabo Haro, near Guaymas, Sonora, Mexico in 100 fms. G. of California, Burch, J. Q. & R. L.; *C. cycophanta* sp. nov. trawled in 25 fms. Keppel Bay, p. 12, pl. 2, f. 1a-8, Australia, Garrard, T. A.

†*Capulus kischlakensis* sp. nov. Baghmanov, p. 16, pl. 1, figs. 10-18; Kischlak, Upper Talysh Azerbaijan, Upper Eocene, Alizade & Baghmanov.

Crepidula fornicata general ecological study, Normandy, Maury, A. (5); *C. fornicata* new to Icelandic fauna from the shore of Akranes, Óskarsson, I.; *C. fornicata* use and abrasion of the radula, photos., Richter, G. (2); *C. fornicata* origin of protein yolk from the Golgi apparatus, Worley & Moriber; *C. fornicata* numbers and sizes of eggs laid, length of larval life, Wyatt, H. V. (2).

†*Crepidula symmetrica* Nomura et Hatai 1936, synonym of *C. costifera* N. et H. 1936, Oyama, K. (5).

Crucibulum spinosum numbers and sizes of eggs laid, length of larval life, Wyatt, H. V. (2).

†*Rothpletzia rudista* anatomical convergence shown with corals and rudists, Miocene, La Vista, Las Palmas and Grand Canary, Martel Sangil, M. (2).

Sigapatella spadicea sp. nov. p. 104, text-fig. 1; North of Kapiti Island in 30 fms., New Zealand, Boshier, D. P.

Thyca callista pl. 4, fig. 12 parasitic on *Phataria unifascialis* from Sonora Mexico, Shasky, D. E. (4).

STROMBACEA

†*Ampullospira airumensis* sp. nov. (in coll.) in list, Cretaceous, Azerbaijan, Aliev, G. A. (1).

†*Aporrhais alatus jamanica* var. nov. p. 263, pl. 5, figs. 9-10; *A. volkovi* sp. nov. p. 265, pl. 5, figs. 7, 8; Caucasus, Middle Miocene, Zhischenko, B. P.; *A. scaldensis*, fig. Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

†*Calyptrophorus termieri* sp. nov. p. 154, pl. 9, figs. 22-27; [on pl. 9 these figs. attributed to *Pugnellus incertus*] Imi n'Tanout, Morocco; Cretaceous, Salvan, H.

†*Chenopus alatus parvidactylus* var. nov. p. 569, pl. 4, figs. 85, 86; Konkak horizon, Miocene, Manghyshlak Russia, Andrusov, N. I. (8).

†*Heliculaux pcelinzevi* sp. nov. p. 42, pl. 1, fig. 5; Koshkarch-Terterch watershed, Minor Caucasus, Cretaceous, Aliev, O. B. (2).

†*Hemithersites (Savorninia) gregaria* subgen. nov. q.v.; *H. chouberti* sp. nov. p. 172, pl. 10, figs. 1, 7, 8; Lutetian Cretaceous; El Kelaa des Shrarna, Morocco, Salvan, H.

Lambis chiragra photo., used as an octopus trap, general ecology, Voss, G. L.

Pterocera lambis on vision, Fischer, P. H. (3).

†*Savorninia* subgen. nov. p. 173 text-fig. 64; of *Hemithersites*, subgenotype *Thersites gregaria*, Oulad Abdoun; *H. (S.) arambourgi* sp. nov. p. 175, text-figs. 65, 66; pl. 11, figs. 6-29, pl. 12, figs. 1-20; Ganntour Morocco, Lutetian Cretaceous, Salvan, H.

Strombus gibberulus & *S. luhuanus* on vision, Fischer, P. H. (3); *S. (Tricornis) gigas*, *S. (T.) costatus*, & *S. (T.)*

raninus feeding habits, Bimini Bahama Islands, S. (S.) *pugilis* & *S. (S.) alatus* from S. Florida, Robertson, R. (4).

†*Strombus bubonius* pl. 2, Pleistocene, isle of Karpathos, Anapliotis, K. (2); *S. bubonius* dwarf form from Alicante, Quaternary, Imperatori, L.

†*Thersites antoni* p. 165, text-fig. 61; Oulad Abdoun; *T. bondoni* p. 167, pl. 12, figs. 21-26; Ganntour spp. nov. Lutetian Cretaceous, Morocco, Salvan, H.

Xenophora torrida sp. nov. pp. 247, 257, pl. 16, fig. 11; Nada S.W. coast Kii Peninsula, Japan, Kuroda & Ito.

ATLANTIDACEA

Atlanta morphology, function & evolution of radula. Operculum & shell form in classification. *Atlanta megalope* sp. nov. p. 231, f. 4a, 13 f., 21, 32, Zanzibar, Richter, G. (1); *A. fusca* & *A. inflata* from the plankton off Morocco, figs., Furnestin, M.-L.; *A. turriculata*, *A. fusca*, *A. leueuri*, *A. inclinata*, *A. inflata*, *A. gaudichaudi*, *A. peroni* & *A. helicoides* opercula, figs. taxonomy, and distribution, Tokioka, T.

Cardiopoda placenta shell and operculum figs., taxonomy, Tokioka, T.

Carinaria cristata, *C. lamarchi*, *C. (cristata) ? japonica* & *C. galea* Japanese and adjacent waters, systematics, ecology, shell structure, distribution, larval history and radulae, Okutani, T. (2); *C. galea* & *C. cithara procumbens* shell & operculum, figs. taxonomy, Tokioka, T.; *C. lamarchi* from the plankton off Morocco, Furnestin, M.-L.

†*Eoatlanta spiruloides* like *Eoatlanta* from the Danian, Denmark, Rosenkrantz, A.

Firolida desmaresti fig. from the plankton off Morocco, Furnestin, M.-L.; *F. desmaresti* figs. egg string, Tokioka, T.; *F. desmaresti* taken in plankton samples in the Indo-Pacific, Wickstead, J. H.

Oxygyrus keraudreni figs., from the plankton off Morocco, Furnestin, M.-L.; *O. keraudreni*, figs. operculum, taxonomy and distribution, Tokioka, T.

†*Protatlanta souleyeti* operculum figs. taxonomy, Tokioka, T.

Pterosoma planum occurrence, operculum, Tokioka, T.

Pterotrachea coronata occurrence, operculum, Tokioka, T.; *P. minuta* fig. from plankton samples off Morocco, Furnestin, M.-L.; *P. minuta* taken in plankton samples from the Pacific, Wickstead, J. H.

NATICACEA

†*Ampullinopsis spenceri* Tertiary, Borchina Colombia, Olsson & Richards.

Eunaticina papilla, radula fig'd., pl. 13, Azuma, M. (2).

Gennaeosinus (?) *yokoyamai* sp. nov. p. 59 for *Polinices pallidus* Yokoyama 1920 non Broderip & Sowerby, Japan, Kuroda & Habe.

Lunatia nitida spawning, reproductive structure, biology and development, figs., Ziegelmeier, E. (3); *L. plucispira* & *L. yokoyamai*, radulae fig'd. pl. 13, Azuma, M. (2); *L. plucispira* sp. nov. Tosa Bay, Japan, p. 130, Kuroda, T. (2).

Mammilla mammatia, *M. simiae*, *M. opaca* & *M. mikawensis*, radulae fig'd., pl. 12, 14, Azuma, M. (2); *M. mikawensis* sp. nov. Naticidae, off Iishiki 30 fms. Mikawa Prov. Honsyū, Japan, p. 195, text-figs. 7, 8; Azuma, M. (1); *M. simiae* Takou Bay, Tapeka Point, Oruawharo and N. Auckland, new records, Warren, P. (2).

Natica alderi predation on dogfish egg capsules, Ansell, A. D. (4); *N. lacteobasis* p. 123 off Tosa; *N. nipponensis* p. 124, Tosa Bay; *N. (Notocochlis) ? tosaensis* p. 125 off Tosa; *N. (Naticarius) tabularis* p. 126 off Daioh-zaki cape, Ise Bay; *N. (N. ?) shoichiroi* p. 127 Daioh-zaki cape; *N. (Notocochlis) tenuispica* p. 128 Tosa Bay; spp. nov. *N. (Notocochlis) picta magnifluctuata* subsp. nov. p. 129, Tosa Bay; Kuroda, T. (2); *N. lurida*, *N. spadicea*, *N. bialteata*, *N. solida*, *N. lactobasis* & *N. buriasensis*, radulae fig'd., Azuma, M. (2).

†*Natica (Neverita) africana* sp. nov. p. 183, pl. 12, figs. 22-4, 27, 28; Lutetian Cretaceous, Ganntour Morocco, Salvan, H.; *N. kurdistanica* sp. nov. (in coll.) in list, Cretaceous, Azerbaidjan, Aliiev, G. A. (1); *N. (Mammilla) lactea* pl. 3 Pleistocene, isle of Karpathos, Anapliotis, K. (2); *N. millepunctata multipunctata* fig., Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1); *Natica ? parvum* sp. nov. p. 88, pl. 28 figs. 5, 6; Lower Cretaceous, Ojo de Agua 10,125 ft., Sierra de Tlahualilo, Coahuila Mexico, Perkins, B. F.; *N. tenuistriata* sp. nov. p. 182, pl. 41, fig. 9; Kaluzhskaya province; Jurassic, European Russia, Gherasimov, A. P.

Naticarius alapapilionis, *N. concinna* & *N. excellens*, radulae fig'd. p. 203, Azuma, M. (2); *N. excellens* sp. nov. Naticidae, off Ieshiki 50 fms. Mikawa Prov. Honsyū, Japan, p. 194 text-figs. 5, 6; Azuma, M. (1).

Neverita didyma, *N. vesiculis*, *N. reiniana* & *N. hayashii*, radulae fig'd., Azuma, M. (2); *N. (Glossaulax) hayashii* p. 193 text-fig. 3, 4; Naticidae, sp. nov. off Ieshiki 20 fms. Mikawa Province Honsyū, Japan, Azuma, M. (1).

Notocochlis tosaensis, *N. hilaris* & *N. tabularis*, radulae fig'd., Azuma, M. (2).

Paratectonatica gen. nov. Naticidae p. 202, radula fig'd. pl. 15 t. 7; genotype *Natica tigrina* Röding, Azuma, M. (2).

Polinices duplicata photo., x-radiograph, Engel, D. W. ; *P. flemingianus*, *P. albus*, *P. sagamiensis*, *P. vestitus* & *P. pyriformis*, radulae fig'd. pl. 12, 14, Azuma, M. (2); *P. lewisii* measurement of cytochrome respiratory pigments, Pablo & Tappel; *P. pulealis* sp. nov. trawled in 50-58 fms. east of Botany Bay p. 18 pl. 2 f. 6, Australia, Garrard, T. A.; *P. (Neverita) ? vestitus* sp. nov. Tosa Bay, Japan, p. 131, Kuroda, T. (2).

Sinum javanicus & *Sinum (Ectosinum) undulatum*, radulae fig'd., Azuma, M. (2).

Tectonatica janthostomoides radula fig'd. pl. 14 f. 10, Azuma, M. (2); *T. janthostomoides* boring behaviour & mechanism, Hamada, S.; *T. ranzii* sp. nov. p. 129, off Erimo-zaki south of Hokkaido, Japan, Kuroda, T. (2).

LAMELLARIACEA

Lamellaria uchidai sp. nov. p. 14 pl. 1, fig. 11; one dead specimen in eel-grass, Akkeshi Bay, Japan, Habe, T. (1).

Trivia elisae range extension near Isla del Carmen, Baja California at 25 fms., Howard, F. B.; *T. europaea* collected off Areachon, Amanieu & Cazaux; *T. monacha* & *T. arctica* acid secretion as a defensive mechanism, Thompson, T. E. (2); *T. (Pusula) myrae* sp. nov. p. 25, pl. 5, figs. 1-3; off Loreto in the channel between Loreto, Baja California and Carmen Island, G. of California, Campbell, G. B. (2).

†*Trivia arctica* figs., Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

CYPRAEACEA

Bistolida (Blasicrura) pallidula luehuana subsp. nov. p. 74, pl. 3, figs. 40-45, Okinawa Is., Kuroda, T. (1).

Cypraea colour and malformations from New Caledonia and French Polynesia, Bonge, L. J.; *Cypraea*, a list of Hawaiian species with notes, [Kay, A.] (4); *Cypraea* of Hawaii, a discussion, Kay, A. (5); *Cypraea* spp. from the Hawaiian Islands; frequency, habitat, size variation & derivation, Kay, A. (7); *Cypraea* species described since 1938, Schilder, F. A. (2); *C. (Notocypraea) angustata* Gmelin 1791 and *C. erronea* L. 1758 measured, sex determined and size differences noted between ♂'s and ♀'s, Griffiths, R. J. (8); *C. annettae* Dall variation, figs., Cate, C. N. (4); *C. beckii* Gaskoin range extension to Faumalu, Oahu, Gage, R.; *C. broderipii* Sowerby 1832, photos., sixth known specimen, Weaver, C. S. (5); *C. erronea* L. range and view that *nimiserrans*, *magerrones* and *proba* Iredale are synonyms of *erronea*, [Griffiths, R. J.] (5); *C. gracilis* sexual dimorphism—red coloured ♀'s and brown ♂'s, Griffiths, R. J. (7); *C. innocella*, Zanzibar Bawi Island, *C. owenii* Dar es Salaam, *C. marginalis* Kenya Diani, photos., Verdcourt, B. (8); *C. (Luria) isabellamexicana* Stearns—extension of range to within the Gulf of California, Shasky, D. E. (1); *C. leviathan* and *C. carneola* distinguishing features, figs., radula and mantle, habitat and distribution, Kay, A. (8); *C. marginata* Gaskoin 1848, rediscovery, confirmed as a valid species, pl. 14, Cate, C. N. (2); *C. meluwardi* Iredale should be considered a synonym of *C. eribaria* L., [Griffiths, R. J.] (4); *C. rosselli* Cotton on the species, Anon. (7); *C. saulae* and *C. macandrewi* notes, [Griffiths, R. J.] (6); *C. tessellata* embedded in black coral, collected off Lahaina, Maui, Anon. (24); *C. tigris* figs. bulla or young stage, Anon. (5); *C. tigris lyncichroa* Melville; a re-description pl. 11, Cate, C. N. (1); *C. tigris schilderiana* p. 108, pl. 19, f. 1-2, subsp. nov. Hawaii, Koko Head, Oahu, Cate, C. N. (3); *C. tigris schilderiana* further measurements and records in the Hawaiian Islands and Pacific, habitat variations and variability in subspecies size, Kay, A. (1); *C. (Notocypraea) trenberthae* sp. nov. [p. 1], 3 figs.; Tumbay Bay, South Australia, Trenberth, W. P.; *C. venusta* Sowerby photos., from West Wallaby Is., Houtman Abrolhos Group, Australia, Weaver, C. S. (4).

Cypraeacea Catalogue of 1941, Schilder, F. A. (5).

Cypraeidae: Iredale's names 1916-1939, discussion on their validity, [Griffiths, R. J.] (1); *Cypraeidae* dimorphism of non-sexual characters, Griffiths, R. J. (7); *Cypraeidae* radula, tables, Schilder, F. A. & M. (1); *Cypraeidae*, sexual differences, Schilder, F. A. & M. (2); *Cypraeidae*, variation of markings, Schilder, F. A. & M. (3); *Cypraeidae* acid secretion in British species, Thompson, T. E. (2); *Cypraeidae* additional records from the east African coasts, Verdcourt, B. (8).

Erronea chinensis and other cowries arranged in species according to Schilder's catalogue (1941), logarithmic study of size calculated by Maria Schilder, Schilder, F. A. (4); *E. (Gratiadusta) katsuue* sp. nov. p. 74, pl. 3, figs. 32-34; Okinawa Is., Kuroda, T. (1).

Erosaria guttata second record in Japan, compared with *E. g. azumai* Nishinomiya, Okezo, S.W. Tosa, Shikama, T. (2); *E. helvola* study of the reproductive system, radula and shell, Schilder, F. A. (1); *E. helvola* sexual differences, examination of shell and radula, Schilder, F. A. & M. (2).

Jousseumea proposed as a valid emendation of *Jousseumia* Sacco 1894; proposal that this name be placed on the Official List of Generic Names; *Jousseumea* Coutière 1896 (junior homonym of *Jousseumea* Sacco 1894) proposal that this name be rejected; type species of *Jousseumea* Sacco, by monotypy *Cypraea sublyncoides* d'Orbigny 1852, *sublyncoides* in this combination proposal to be placed on the Official List, Holthuis, L. B.

Mauritia arabica (L.) on the size—a statistical study, Schilder, F. A. (3).

Monetaria annulus and *M. moneta* study of the reproductive system, radula and shell, Schilder, F. A. (1); *M. annulus* and *M. moneta* sexual differences, examination of shell and radula, Schilder, F. A. & M. (2).

Notocypraea on the shells of species, [Griffiths, R. J.] (3).

Salmones Holthuis 1955, proposal that the specific name *serratidigitus* Couthière 1896, published in the combination *Jousseaumea serratidigitus* be placed on the Official List as the type-species of *Salmones*, Holthuis, L. B.

Umbilia hesitata sexual dimorphism—♂ shells larger than ♀ shells, Griffiths, R. J. (7).

Volva volva habei subsp. nov. p. 288, text-figs. 3, 4; Japan, Oyama, K. (3).

Zoila venusta Sowerby and *Z. episema* Iredale nomenclature and identification, Summers, R.

TONNACEA

Bursa latitudo sp. nov. trawled in 125 fms. off Moreton Id. Queensland p. 15 pl. 2 f. 2, Garrard, T. A.

Cassia cornuta egg cluster photo., Anon. (6); *C. cornuta* photos., male and female shells, sex determination, Weaver, C. S. (6).

Charonia lampas from Guernsey, believed to belong to the Lukia Collection, Crowley, T. E. (2); *C. lampas* hydrolysis of polysaccharidesulphate esters by a sulphatase preparation, Takahashi & Egami; *C. rubicunda* Foveaux Strait oyster beds off Bench Island, on a crayfish pot, new record Stewart Island, Smith, E.

Colubraria castanea nom. nov. p. 48 for *Triton* (*Epitriton*) *comptus* Sowerby 1874 non A. Adams 1854, Japan, Kuroda & Habe; *C. fantomei* trawled in 40 fms. east of Coloundra, pl. 1, f. 5; *C. myna* trawled in 75 fms. east of Broken Bay N.S.W. pl. 1, f. 6, spp. nov. p. 25, Garrard, T. A.; *C. xavieri* sp. nov. p. 141, pl. 10 figs. 7, 8; Cabo Haro, Guaymas Mexico in 100 fms. also figd. *C. jordani*, *C. aphrogenia*, *C. siphonata*, *C. lucasensis*, *C. sowerbii*, *C. lanceolata* & *C. reticulata*, Campbell, G. B. (4).

†*Dolium liverovski* sp. nov. p. 267, pl. 2, figs. 24–26; Caucasus, Middle Miocene, Zhizhenko, B. P.

Eudolium inflatum sp. nov. p. 56 for *Eudolium lineatum* Osima 1943 non Schepman, Japan, Kuroda & Habe.

Galeodea echinophorella sp. nov. p. 58 for S. Hirase 1934 Coll. Jap. Shells. 1, frontis. f. 10 (f. and n. only) Japan, Kuroda & Habe.

Phanozosta semitoria sp. nov. p. 76 for *Austrotriton nassariformis* Hirase 1922 non Sowerby 1902, Japan, Kuroda & Habe.

Pulchroscia delecta gen. et sp. nov. dredged in 75 fms. east of Botany Bay, N.S.W. p. 16 pl. 1, f. 9a, b, Garrard, T. A.

Xenophthalmus harrissonae, Mason Bay, Stewart Island ecology, Smith, E.

PTENOGLLOSSA

EPITONIACEA

Amacea iwataikii sp. nov. p. 297 text-fig. 4; off Tosa 100 fms.; Shikoku, Japan, Azuma, M. (3); *A. secunda* sp. nov. p. 252, 261, pl. 16, fig. 6; Kii Peninsula, Japan, Kuroda & Itô.

Cirsotrema (*Elegantiscala*) *rugosum* sp. nov. pp. 253, 262, pl. 16, fig. 8; Tosa Bay, seas off Kii Peninsula, Japan, Kuroda & Itô.

Epitoniidae feeding on coelenterates, Robertson, R. (6).

Epitonium (*Epitonium*) *albidum* lives in association with and feeds on *Stoichactis helianthus*, Robertson, R. (6); *E. (Solvacanthus) crenulatum dragonella* subsp. nov. p. 73, pl. 1, figs. 10, 11; Okinawa Is., Kuroda, T. (1); *E. kandai* Kuroda & Azuma sp. nov. p. 299, text-figs. 5, 9; off Kii, Japan 30–40 fms., Azuma, M. (3).

†*Epitonium frondiculum* fig. Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

Habea callizona sp. nov. Kashiwajima Shikoku Japan pp. 417, (423), Habe, T. (10).

Ianthina ianthina spectral absorption of the violet pigment extracted from dried specimens, Comfort, A.

Janthinidae feeding on coelenterates, Robertson, R. (6).

Lampropalia gen. nov. pp. 255, 264, Epitoniidae type species *L. nitida* sp. nov. pp. 255, 264; pl. 16, fig. 10; Tosa Bay Shikoku, from Goto Islands to Kii Peninsula Japan, Kuroda & Itô.

Teramachiicirsa gen. nov. pp. 254, 263, Epitoniidae, type species *T. annulata* sp. nov. pp. 254, 269; pl. 16, fig. 9; off Tosa Bay, very rare, Japan, Kuroda & Itô.

AGLOSSA

PYRAMIDELLACEA

†*Chrysallida* (*Parthenina*) *interstincta*, *C. (P.) emaciata*, *C. (Partulida) spiralis incerta* & *C. (Tragula) fenestrata* systematics and ecology, Black Sea basin Quaternary, Ilyina, L. B. (1).

Comenteroxenos parastichopoli nov. gen. et sp. p. 268 f. 1–3; parasitic in coelom of *Parastichopus californicus* in Puget Sound, Washington U.S.A., Tikasingh, E. S.

Curvulima flavipunctata sp. nov. near Amami-Oshima, Japan, pp. 419, (427) f. 15, 16, Habe, T. (10).

Derjuginella gen. nov. p. 34 of Pyramidellidae genotype *Stylopia rufofasciata* Smith 1875 p. 34, pl. 1, fig. 19; two specimens Akkeshi Bay, two from Volcano Bay, distribution Maritime Prov., of Siberia and Hokkaido, Habe, T. (1).

†*Ebala* (*Ebala*) *nitidissima* ecology and systematics, Quaternary Black Sea basin, Ilyina, L. B. (1).

Enteronidae Heding & Mandahl-Barth 1938, placed in the order Parasita (revived in this paper) to include *Enteronoxenos otergreni* Bonnevie 1902, *Comenteroxenos parastichopoli* Tikasingh 1961, *Thyonicola mortenseni* Mandahl-Barth 1941, *Thyonicola americana* Tikasingh 1961, general characteristics of the family and reasons for placing it in the Opisthobranchia not the Nudibranchia, Tikasingh & Pratt.

Enteronoxenos otergreni attached to the intestine or free in the body cavity of *Stichopus tremulus*, Tikasingh & Pratt.

Entoconchidae Fischer 1885 (= *Cochlosyringia* Voigt 1888) placed in the revived order Parasita to include *Entoconcha mirabilis* Müller 1852 (= *Helicosyrinx parasita* Baur 1864), *Entocolax ludwigii* Voigt 1888, *Entocolax schiemenzii* Voigt 1901, *Entocolax trochodotae* Heding 1934, *Entocolax schwanwitschi* Heding & Mandahl-Barth 1938, *Entocolax rimsky-korsakovi* Ivanov 1945; general characteristics of the family and reasons for placing it in the Opisthobranchia rather than the Nudibranchia, Tikasingh & Pratt.

Eulima kavanurui sp. nov. Kakeroma-jima, near Amami-Oshima Japan pp. 418 (425) f. 14, Habe, T. (10).

†*Eulimella* (*Eulimella*) *acicula* ecology and systematics, Black Sea basin, Quaternary, Ilyina, L. B. (1).

Leptogobalcis amamiensis f. 8; *L. punctonata* f. 12, 13 spp. nov. pp. 418, (426) near Amami-Oshima, Japan, Habe, T. (10).

Melanella comatulicola associated with *Antedon mediterranea* at Banyuls, Changuex, J.-P.

Menestho akkeshiensis sp. nov. p. 34 pl. 3 fig. 6; four specimens dredged in Akkeshi Bay, Japan, Habe, T. (1).

†*Menestho* (*Noemiamaea*) *dolioliformis* ecology and systematics, Black Sea basin, Quaternary, Ilyina, L. B. (1).

Niso yokoyamai sp. nov. p. 72 for ? *Niso interrupta* Yokoyama 1926 non Sowerby 1834, Japan, Kuroda & Habe.

Odostomia chitonicola E. A. Smith, found on *Dinoplax gigas* at Port Edward, Natal, Robertson & Orr; *O. (Chrysallida) dianthophila* sp. nov. Beaufort, North Carolina p. 152 text-figs. 1-3, 8, Wells, H. W. & M. J.; *O. hyalinella* nom. nov. p. 73 for *hyalina* A. Adams 1861 non 1860, Japan, Kuroda & Habe; *O. impressa* (Say) feeding on *Molgula* in Chesapeake Bay, Robertson & Orr; *O. (Turridostomia) nakayamai* subgen. et sp. nov. pp. 419 (427) f. 10 Tosa Bay, Japan, Habe, T. (10).

†*Odostomia* (*Odostomia*) *plicata*, *O. (O.) acuta*, *O. (Brachystomia) pallida* (= *O. eulimoides* = *O. rissoides*) & *O. (Auristomia) erjaveciana*, systematics and ecology, Quaternary, Black Sea basin, Ilyina, L. B. (1).

Pyramidella hosts. Review of observations, Robertson & Orr.

†*Pyramidellidae* systematics and ecology, Black Sea basin, Quaternary, Ilyina, L. B. (1).

†*Sandbergeria sokolovi* & *S. acicularis* "spp. nov." p. 461, text-fig. 53; Kerch peninsula, Miocene Russia, Andrusov, N. I. (7).

Thyonicola americana sp. nov. p. 269 f. 4-6 parasitic in *Eupentacta quinqueemita* & *E. pseudoquinqueemita* from Puget Sound, Washington U.S.A., Tikasingh, E. S.

Turbonilla (*Mormula*) *hirasei* Kuroda sp. nov. p. 76, Okinawa Is., Kuroda, T. (1); *T. hirasei* sp. nov. p. 94 for *Mormula decussata* Kuroda 1928 non A. Adams, Japan, Kuroda & Habe.

†*Turbonilla* (*Turbonilla*) *densecostata* & *T. (T.) pusilla* ecology and systematics, Black Sea basin, Quaternary, Ilyina, L. B. (1).

Turridostomia subgen. nov. pp. 419 (427) of *Odostomia* q.v., Habe, T. (10).

STENOGLOSSA

MURICACEA

†*Brachytrema kostromense* sp. nov. p. 196, pl. 39, fig. 17; Ussolye; Jurassic, European Russia, Gherasimov, P. A.

Cerastoma Troschel 1838, proposal that this name be rejected as an erroneous spelling of *Cerostoma* Conrad 1837, Hall, C. A.

Cerastoma Herrmannsen 1846, proposal that this name be validated; with *C. nuttalli* Conrad 1837, as the type species and validated also, Hall, C. A.

Cerostoma Conrad 1837, proposal that this name be rejected as a junior homonym of *Cerostoma* Latreille [1802-1803], Hall, C. A.

Coralliophila deburghiae photo., loosely coiled Japanese shell, ecology, Voss, G. L.

†*Coralliophila hataii* sp. nov. p. 81, pl. 10, figs. 11a-b; Takamatsu, Atsumi Peninsula Japan, Pleistocene, Hayakawa, S.

Eupleura caudata sexual behaviour figs., Hargis & MacKenzie; *E. caudata* growth and reproduction, York River, Virginia, MacKenzie, C. L. (2).

Latiaxis (*Latiaxis*) *latipinnatus* sp. nov. p. 301, text-figs. 2, 6; off Tosa 80-100 fms. Shikoku Japan, Azuma, M. (3); *L. (Latiaxis) tortuosus* sp. nov. p. 192, text-f. 2, 100 fthms., off Tosa, Shikoku Isl. Japan, Azuma, M. (1).

Murex elongata in Oahu, Anon. (4); *M. (Siratus) propinquus* Kuroda & Azuma sp. nov. p. 300 text-figs. 7, 10; off Tosa, 50-80 fms. Shikoku Japan, Azuma, M. (3); *M. tenuispina* photo., spines used for protection, general ecology, Voss, G. L.; *M. trunculus* toxicity to *Leuciscus* of a fresh extract of the hypobranchial gland, Jullien, Cardot, Joly & Verneaux (1); *M. trunculus* a study of heart structure and physiology, Jullien, Cardot, Joly & Verneaux (2).

†*Neotyphis* subgen. nov. p. 375 of *Typhis*, genotype *T. tepunga* Pliocene, New Zealand, Vella, P. (1).

Ocenebra japonica food preference and feeding, figs. Chew, K. K.

Poirieria kurranulla sp. nov. trawled off Cape Moreton, Queensland p. 27 pl. 2 f. 4, Garrard, T. A.; *P. zelandica* Stewart Island ecology, Smith, E.

†*Polytropia shiva* sp. nov. p. 102, pl. 2 figs. 3, 7, 8; Dogamae Nozawa-mura Japan, Pliocene, Chinzei, K.

Pteronotus eos new locality record from the Bay of Plenty, Warren, P. (2).

Purpura Martyn 1784, proposal that this name be rejected (name published in a work rejected for nomenclatorial purposes, because non-binominal names used), Hall, C. A.

Purpurina ? *yanrenensis* sp. nov. Nanutarra formation, Western Australia pp. 10 33 pl. 7 f. 6a, b, Cox, L. R. (1).

Rapana bezoar reproduction in the Black Sea, Chukhehin, V. D. (1); *R. bezoar* growth in Sebastopol Bay, Chukhehin, V. D. (2); *R. bezoar* in Gudan oyster bed, Chukhehin, V. D. (3).

†*Rugotyphis* gen. nov. p. 376 Typhinae genotype *Typhis francescae* Lower Miocene, New Zealand; *R. secundus* sp. nov. p. 386 pl. 46 figs. 8, 9; Middle Miocene Clifden, Southland New Zealand, Vella, P. (1).

Siphonochelus solus sp. nov. p. 388 pl. 47, fig. 21; Mayor Island 113-130 fms., Bay of Plenty, Vella, P. (1).

Transtrofer asiaticus sp. nov. p. 74 Okinawa Is., Kuroda, T. (1).

Tromina bella abyssicola subsp. nov. p. 364, pl. 2, fig. 10; pl. 4, fig. 7; R/V Vema station 51 (2,507 fms., Agulhas basin, 1,000 miles S.W. of Capetown, S. Africa) *T. traversensis* sp. nov. p. 365, pl. 2 fig. 8; R/V Vema station 49 (1,497 fms. S. of Traverse Is. South Sandwich Is.), Clarke, jr. A. H. (2).

†*Typhis* (*Neotyphis*) subgen. nov. q.v. *T. (T.) adventus* p. 380 pl. 47 fig. 23 text-figs. 4, 8; North Otago, Oligocene; *T. (T.) planus* p. 381 pl. 46 fig. 7; *T. (T.) clifdenensis* p. 382 pl. 47 fig. 26; Long Beach, *T. (Hirtotyphis) aculeatus* p. 383, pl. 46 figs. 1, 3; Waiau River, Clifden, Southland, *T. (H.) aculeatus* p. 384 pl. 46 fig. 2; Paharo River East Wairarapa, Miocene spp. nov. New Zealand, Vella, P. (1).

Urosalpinx cinerea tidal rhythm of oxygen consumption, Fingermaier, M.; *U. cinerea* sexual behaviour, Hargis & MacKenzie.

BUCCINACEA

Babylonia japonica carbohydrate and protease of salivary and mid gut glands, Yamaguchi, Oshio, Tsukamoto, Yago & Takatsuki.

Buccinanops duartei sp. nov. p. 87, figs. 1, 2; La Coronilla, Rocha dept., Uruguay, Klappenbach, M. A. (2).

Buccinum superangulare sp. nov. pp. 183, 186; text-fig. 9; mutation of *B. undatum* found at Stöðvarfjörður, East Iceland. Óskarsson, I.; *B. tenue* Gray should be called *B. elatior* Tryon, synonymy discussed, Baily, Jr., J. L. (1); *B. undatum* population studies, Whitstable, Kent, Hancock, D. A.

Bullia digitalis & *B. laevis* physiological-ecological study on S. African sandy beach, Brown, A. C.

Busyon canaliculatum photo., X-radiograph, Engel, D. W.; *B. canaliculatum* polyglucose sulphate in chondroid tissue, Lash & Whitehouse; *B. caricum* & *B. canaliculatum* from Draper Site shell pits, Shuster Jr., C. N.

†*Busyon* (*Busyon*) *tritone* redescribed and reillustrated from the Upper Miocene of York Co., Virginia, Fagerstrom, J. A. (2).

†*Cantharus* (*Polia*) *advena* sp. nov. p. 147 pl. 8 fig. 3; Pleistocene, Grammichele Sicily, Malatesta, A.

Chrysodomus hypolepis Dall 1919 (non 1891) renamed *C. kelseyi* F. Baker now corrected as *Neptunea kelseyi* (F. Baker) as a synonym of *N. intersculpta* (Sowerby); p. 150, Habe, T. (2).

Clathranachis gen. nov. p. 46 of Columbellidae (Pyrenidae); genotype *Lachesis japonica* A. Adams, Japan, Kuroda & Habe.

Colus (*Latisipho*) *lepidus* Dall 1918 made a synonym of *Buccinum castaneum* Dall 1877, Habe T. (6).

†*Colus curtus* fig. Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

Cyclonassa neritoea biocenosis Grado and Marano lagoons, Vatova, A. (1).

Cyclope westerlundii brusinae and *C. w. westerlundii* distribution, figs., Ilyina, L. B. (2).

Fusinus depetithonari photo., shell structure and general ecology, Voss, G. L.; *F. grabau* sp. nov. p. 58 pro *Fusinus nodosoplicatus* Grabau 1904 non Dunker 1867, Japan, Kuroda & Habe.

†*Fusinus schwarzenbergi* "sp. nov." [in a table] p. 374, Tembrock, M. L.

Granulifusus gen. nov. p. 59 of Fascioliariidae genotype *Fusinus niponicus* Smith 1879, Japan, Kuroda & Habe.

Ilyanassa role of the polar lobe region in embryonic determination, Clement, A. C.; *Ilyanassa* embryo, nucleic acid and protein metabolism, Collier, J. E.; *I. obsoleta* dense colony in soft sticky black mud at Little River, Annisquam Tidal River, Cape Ann, Massachusetts, Dexter, R. W. (4); *I. obsoleta* effects of cobalt on developing eggs and embryos, Morrill, J. B. (1); *I. obsoleta* effect of lithium chloride on the number of eyes, Morrill, J. B. (2); *I. obsoleta* protein differentiation during development, Morrill, J. B. (3).

Latisipho pharcida Dall paratype figured, Habe, T. (6).

†*Latrunculus bistriatum* sp. nov. p. 187 pl. 16 figs. 28-29; Lutetian Eocene, Gannour Morocco, Salvan, H.

†*Mancorus grabau*, Tertiary Borchina Colombia, Olsson & Richards.

Melongenella corona, salinity tolerances, feeding habits, embryonic stages and animal size in adult populations, Florida Gulf coast, Hathaway & Woodburn.

†*Melongenella eysautieri* sp. nov. p. 188, pl. 13, figs. 9-10; text-fig. 70, Meskala; *M. gauthieri* sp. nov. p. 190, pl. 13, fig. 11; Gannour, Lutetian Eocene, Morocco, Salvan, H.; *M. (Melongenella) melongenella consors* Tertiary, Borchina Colombia, Olsson & Richards.

Nassa reticulata function of the hepatopancreas and digestion, Martoja, M. (1); *N. reticulata* absorption of radioactive materials by the alimentary canal, Martoja, M. (2).

†*Nassa iwakiana* Yokoyama 1931, synonym of *Antillophos* (*Coraeophos*) *nakamura* Kuroda in Homma 1931, Oyama, K. (5); *N. retowskii* "sp. nov." p. 339 pl. 3, figs. 28-30; [in text] Miocene Russia, Andrusov, N. I. (4).

Nassarina (*Zanassarina*) *anilae* sp. nov. p. 26 pl. 5, fig. 4; off Cabo Haro Guaymas, Mexico, Campbell, G. B. (2).

Nassarina responses to experimental reversals in direction of weak magnetic fields, Barnwell & Webb; *Nassarina* organismic orientation relative to magnetic axes in response to weak magnetic fields, Brown & Barnwell; *N. fossatus* preyed on by *Octopus*, Pilson & Taylor; *N. hirasei* sp. nov. p. 70 for *Nassa* sp. Hirase 1908, Japan, Kuroda & Habe; *N. obsoleta* magnetic and photic responses, Barnwell & Brown; *N. obsoletus* tidal rhythm of locomotor activity, Fingerman, M.; *N. obsoletus* metamorphosis of the veliger larvae in response to bottom sediment, Scheltema, R. S.; *N. reticulatus* and *N. nitida* difference shown by ninhydrin-sprayed chromatograms, Collier, D. M.; *N. (Reticonassa) taggartorum* sp. nov. p. 75, pl. 3, fig. 46; Okinawa Is., Kuroda, T. (1).

Neobuccinum in the Antarctic, a note from, Lecointre, G.; *N. eatoni* E. A. Smith typical form, *N. e. ampla* var. nov. p. 85, text-figs. Antarctica, Fischer, H. J. L.

Neptunea communis, *N. beringiana*, *N. satura*, *N. lyrata*, *N. bulbacea*, *N. polycostata*, *N. constricta*, *N. soluta* and *N. lamellosa* egg capsules, Golikov, A. N.; *N. eulimata* reaction of muscle fibres under the influence of urea, Ushakov & Krolenko.

†*Neptunea contraria* fig., Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

Peristernia pilabryi sp. nov. p. 76 for *Ptychotractus coreanicus* Hirase 1907 non *Fusus* Smith 1879, Japan, Kuroda & Habe.

Siphonofusus gen. nov. p. 86 of Buccinidae genotype *Siphonalia lubrica* Dall 1918, Japan, Kuroda & Habe.

†*Streptochetus dubari* sp. nov. p. 196, pl. 10, figs. 9-12; text-figs. 72, 73; Lutetian Cretaceous, Gannour Morocco, Salvan, H.; *S. (Streptodictyon) elongatus* subgen. nov. p. 373, pl. 1, figs. 3, 4; pl. 2, figs. 2, 2a, 3; *S. (Streptodictyon) e. sollingensis* var. nov. p. 373 pl. 1, fig. 5; Oligocene, Hermsdorf and Solling, Tembrock, M. L.

†*Streptodictyon* subgen. nov. p. 373 of *Streptochetus* Cossmann 1889 q.v., Tembrock, M. L.

Volutopsius dalli sp. nov. p. 97 for *Volutopsius hirasei* Dall 1925 non Pilsbry 1907, Japan, Kuroda & Habe; *Volutopsius diminutus* Dall ? = *V. middendorffi* hirasei Pilsbry, pp. 147, 149, f. 2, Habe, T. (2).

VOLUTACEA

Amoria (*Amoria*) *clioti* Port Hedland, A. (A.) grayi Thevenard Is., and A. (A.) *praetexta* Sharks Bay photos., West Australia, Weaver, C. S. (1).

†*Ancilla* (*Baryspira*) *glandiformis* Miocene, general study, Cabrière-d'Aygues, Mongin, D. (2).

†*Athleta petrosa*, Eocene, Texas, phylogeny and recognition of two separate lines characterized by *A. tuomeyi* Conrad 1853 and *A. petrosa* (Conrad 1833), Fisher & Rodda.

Austromitra antipodum, *A. erecta* and *A. rubiginosa* from Whangaroa new records, Warren P. (2).

Baryspira lactea sp. nov. p. 76, Okinawa Is., Kuroda, T. (1).

Cancellaria obesa collected alive, intertidally, Puertecitos, Baja California, Shasky, D. R. (4); *C. strongi* sp. nov. p. 19, pl. 4, fig. 4; 33-55 fms. off Pt. Arena, Baja California, Shasky, D. R. (3).

Cymbium patulum pharmacodynamic effects of extracts of the poison gland, Marche Marchad, Giono, Maser et al.

Fusiaphera macrospiratoides 'sp. nov.' [nom. nov.] for *Fusiaphera macrospira* Habe (non Adams & Reeve) [in Col. Illust. Shells, Japan (2) p. 72 pl. 35 f. 19] pp. 433 (439) pl. 23 f. 10 pl. 24, f. 10 off Isehiki, Aichi, Japan, Habe, T. (11).

Harpa costata from Mauritius figs., Carpenter, W. N.

Harpidae a general survey of genera, Jacobs, G. E.

†*Heligmotoma rogeri* sp. nov. p. 205, text-fig. 75; pl. 13 figs. 1, 4, 5, 7, 8; Lutetian Cretaceous, Ganntour Morocco, Salvan, H.

Marginella differens eugenes forma nov., Umkomaas River, Natal, 40 fthms. Ann. S. Afr. Mus. 45 1959, Barnard, K. H. (Omitted from Zoo. Record 96 1959); *M. (Volvarina) patagonica* Martens from Uruguayan waters, fig., Ureta, E. H.

Mitra sp. from the dolmen of Peyrolebado used as a ring, Astre, G. (1); *M. fultoni* E. A. Smith 1892, rare species belongs to subgen. *Strigatella* and the *Mitra orientalis-idae* complex within the subgen., recent and fossil specimens, type localities and ranges in the Eastern Pacific, Sphon, G. G.; *M. incompta* = *M. tessellata* figs., Anon. (29); *M. tessellata* Martyn 1784, invalid becomes *M. incompta* (Solander in Humphrey 1786); *M. terebralis* Lamarck 1811, considered a synonym of *M. tessellata* Martyn; however Humphrey's reference to Martyn's figure antedates Lamarck's work by 25 years and thus takes priority, Cate, J. M. (3); *M. tessellata* Martyn 1784 = *Mitra incompta* Solander in Humphrey 1786, Cate, J. M. (5).

†*Mitra lavocati* sp. nov. p. 208, pl. 15 fig. 17; Lutetian Cretaceous, Ganntour Morocco, Salvan, H.

†*Narona (Sveltella) ravni* nom. nov. p. 73 pro *Cancellaria angulifera* Koenen 1885 non Deshayes 1865, Palaeocene Copenhagen, Denmark, Glibert, M. (1).

Nipponaphera iwataki sp. nov. off Kochi, Shikoku, Japan pp. 431 (437), pl. 24, f. 22, Habe, T. (11).

Oliva hirasei sp. nov. p. 74, for Hirase 1909 Conch. Mag. 3 pl. 4 fig. 26, Japan, Kuroda & Habe.

†*Oliva ambrogii* sp. nov. p. 203, text-fig. 74; pl. 15, figs. 8-13; Ganntour Morocco, Lutetian Cretaceous, Salvan, H.

†*Olivancillaria (Pseudolivella)* subgen. nov. p. 20, subgenotype *Olivella impressa* Vasseur 1881 Lutetian, Bois-Gouet, (Loire atlantique) Fresville (Cotentin), Glibert, M. (1).

Paramoria weaveri sp. nov. p. 55 pl. 5 upper figs.; Zeewyck Channel Abrolhos Is., dredged in 80 fms., McMichael, D. F. (1).

Proximita obscura from E coast beaches N. of Tutukaka and Mokohinau Island new records, Warren, P. (2).

Pseudocymbiola gen. nov. p. 54 genotype *Pseudocymbiola provocationis* sp. nov. p. 55 off S. coast of New South Wales at Ulladulla; pl. 4, f. 9, 10, McMichael, D. F. (1).

†*Pseudoliva (s. s.) koeneni* Ravn nom. nov. 1939, Palaeocene, Copenhagen, Denmark, Glibert, M. (1); *P. minutissima* sp. nov. p. 198 pl. 15 fig. 16; Montian Cretaceous; Bouaboub, Morocco, Salvan, H.

†*Pseudolivella* subgen. nov. p. 20 of *Olivancillaria* q.v., Glibert, M. (1).

Solutosveltia gen. nov. pp. 433 (439) of *Cancellariidae*, genotype *S. abyssicola* sp. nov. pp. 433 (438) off Kochi Pref., Shikoku, Japan, Habe, T. (11).

Trigonaphera stenophala sp. nov. pp. 432 (437) pl. 24 fig. 12; off Isehiki, Aichi Pref., Japan, Habe, T. (11).

Trigonostoma campbelli sp. nov. p. 20 pl. 4, fig. 5; 30-50 fms. off Cabo Haro Guaymas Sonora, Mexico, Shasky, D. R. (3).

Vasum globulus nuttingi habitat notes and of *V. muricatum* and *V. capitellum* in the Caribbean, Shuster & Bode.

Vezillum coloscopulus sp. nov. p. 6, pl. 1, figs. 1, 2; pl. 2 figs. 1-3; Cape Melville Balabac, Philippine Islands, Cate, J. M. (2); *V. regina filiareginae* subsp. nov. p. 80, pl. 18, figs. 6a, 6b; pl. 19, fig. 6; pl. 20, figs. 1a-10a, 1b-10b; Cape Melville, Balabac, Philippine Islands; also a discussion of *V. regina* and related species *compressum*, *coloscopulus*, *taeniatum* and *vittatum*, Cate, J. M. (4); *Vezillum utraque* Melvill, occurrence in Philippine waters, figs., Cate, J. M. (1).

†*Vezillum (Uromitra) chavani* sp. nov. p. 31, Stampian, Gaas (Leabarritz) (Béarn) V. (U.) *recticosta salbriacense* subsp. nov. p. 33, Burdigalian, Saubrigues (Landes), Glibert, M. (1).

Vicimitra maoria from East Cape, Bay of Plenty and Te Kaha, new records, Warren, P. (2).

†*Voluta (Scaphella) lamberti* figs., Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

Volutaconus hargreavesi Angas type locality established as Geraldton W. A. to Dampier Archipelago N.W.A., Weaver, C. S. (1).

Xancus pyrum, a food and as jewellery, chank fishing off Ceylon, Jonklaas, R.

†*Xancus buccina* sp. nov. p. 9, pl. 2, fig. 1; Tertiary, Borchina, Colombia, Olsson & Richards.

TOXOGLOSSA

CONACEA

†*Amblyacrum edwardsi* nom. nov. p. 79 pro *Pleurotoma acuticosta* Edwards 1857-1861, non Nyst, Auversian, Bramshaw Hampshire Basin Cenozoic, Glibert, M. (2).

†*Anacithar[ea] bulbosa* sp. nov. p. 131 pl. 3 figs. 10, 15; text-figs. 18, 19; L. Pliocene Nihonmatsu, Takanabe machi, Koyu gun, Miyazaki Pref. Japan, Shuto, T. (2).

†*Antiplanes voyi* Gabb 1866, p. 18 for *Pleurotoma perversa* Gabb 1865 non Philippi 1846, Pleistocene, San Pedro California; Elk River Oregon U.S.A., Glibert, M. (2).

†*Aoteadrillia longiplicate* sp. nov. p. 117, pl. 8, figs. 8, 11; text-figs. 12, 16; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref. Japan, Shuto, T. (2).

Arielia gen. nov. Turridae p. 20; genotype *A. mitri-formis* sp. nov. p. 20, pl. 4, figs. 7-9; 40-90 fms. off Islas Partida & Espritu Santo, Gulf of California, Shasky, D. R. (3).

†*Bathytoma (Parabathytoma) striatotuberculata* subgen. nov. p. 87; pl. 4, figs. 2-4; pl. 5 fig. 11; pl. 8 fig. 13; pl. 9 fig. 16; text-figs. 3, 4; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun; *B. (P.) microgemmata* sp. nov. p. 88

pl. 9 fig. 6; text-figs. 3, 4; Tano beds, M. Miocene; Kano, Takaoka machi, Higashi-morogata gun; Miyazaki Prefecture Japan, Shuto, T. (2).

†*Borsonia miyazakiensis* sp. nov. p. 127 pl. 3 fig. 6; pl. 5 fig. 8; text-fig. 17; *B. smithi hagenoshita* subsp. nov. p. 129 pl. 3 figs. 16, 17; text-fig. 17; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Brevimyrella gen. nov. Terebridae genotype *Terebra lischkeana* Dunker pp. 180, 187; Oyama, K. (1).

Cinguloterebra gen. nov. Terebridae genotype *Terebra hedleyana* Pilbry pp. 179, 183, Oyama, K. (1).

Clathrodrillia (*Carinodrillia*) *bicarinata* sp. nov. p. 21 pl. 4 fig. 10; 45–90 fms. off Islas Partida and Espiritu Santo, Gulf of California, Shasky, D. R. (3).

Clathroterebra gen. nov. Terebridae genotype *Terebra fortunei* Deshayes pp. 180, 183, Oyama, K. (1).

Clathurella Carpenter 1857, proposed placing of this generic name on the Official List and proposed designation of *Clavatulava rava* Hinds 1843, as the type-species, Bailly, J. L. (2).

Clavatulava rava Hinds 1843, (type-sp. of *Clathurella* Carpenter 1857) proposal to be placed on the Official List of Specific Names, Bailly, J. L. (2).

†*Clavatulava* (*Paradrillia*) *astutoides* p. 107 pl. 5 figs. 2, 3; text-figs. 9, 10; L. Pliocene, Nihonmatsu, Takanabe machi; *C. (P.) minoensis* p. 108 pl. 4, fig. 15; pl. 6 figs. 16, 17; text-figs. 9, 10; U. Miocene, Yamaji, Minomura spp. nov. *C. (P.) elachystoma convexiuscula* subsp. nov. p. 109, pl. 6 fig. 15; pl. 10 fig. 18; text-figs. 9, 10; L. Pliocene; Hagenoshita, Uwaye mura, Koyu gun Miyazaki Pref., Japan, Shuto, T. (2); *C. doderleini curia* subsp. nov. p. 627, pl. 29 figs. 8–11; Várpalota, Hungary, Miocene, Boda, J.; *C. sublaevigata*, *C. orientoromana* & *C. hungaricus* "ssp. nov." p. 33 [in a table] Szokolya Hungary, Miocene, Baldi, T.

†*Comitas* (*Fusiturricula*) *habei* p. 95 pl. 7 figs. 15, 19; pl. 9 fig. 1; text-figs. 5, 6; Hagenoshita, Uwaye mura, Koyu gun; *C. (F.) miyazakiensis* p. 96, pl. 5, figs. 1, 4; pl. 10 fig. 16; text-figs. 5, 6; Nihonmatsu, Takanabe machi spp. nov. Miyazaki Pref., Japan, L. Pliocene, Shuto, T. (2).

Conus, a fatality due to venom from a 'bite,' Anon. (2); *Conus* species from the Seychelles, Anon. (22); *Conus* egg-laying habits, Anon. (25); *Conus* egg-laying habits in the Indian Ocean, Anon. (27); *Conus* species from Eniwetok Island, listed, Anon. (28); *Conus* egg-laying observations, Clover, P. W. (1); *Conus* species from North Borneo, Saul, M. (1); *C. abbreviatus*, *C. catus*, *C. imperialis*, *C. leopardus*, *C. lividus*, *C. pennaceus*, *C. quercinus*, *C. rattus* & *C. vitulinus* developmental studies from Hawaii, Kohn, A. J. (1); *C. arenatus*, Cosmoledo Atoll, *C. aulicus* Seychelles, *C. coronatus*, Maldiv Islands; *C. ebraeus* Cosmoledo Atoll; *C. fuliginus* Ceylon; *C. geographus* Seychelles; *C. glans* Ceylon; *C. imperialis* Seychelles; *C. leopardus* Seychelles; *C. lividus* Ceylon; *C. miliaris* Maldiv Islands; *C. moreleti* Seychelles; *C. pennaceus* Maldiv Islands; *C. rattus* Ceylon; *C. tulipa* Seychelles; *C. varius* Seychelles; *C. verillum* Seychelles; *C. virgo* Ceylon; spawning behaviour, egg masses and larval development in the Indian Ocean, Kohn, A. J. (2); *C. auricomus*, *C. nussatella*, *C. marmoreus bandanus*, *C. obscurus* and *C. cylindraceus* pl. figs. Hawaii and Indo-Pacific, Kohn & Weaver (2); *C. californicus* Hinds, food and feeding, figs., Saunders & Wolston (1) & (2); *C. capitaneus*, *C. miles*, *C. verillum*, *C. bullatus* & *C. imperialis* pl. figs. Hawaii and Indo Pacific, Kohn & Weaver (5); *C. circumactis*, *C. vitulinus*, *C. distans*, *C.*

ebraeus & *C. chaldaeus* pl. figs. Hawaii and Indo-Pacific, Kohn & Weaver (3); *C. ebraeus* & *C. pulicarius* photos., malformed specimens, Anon. (19); *C. eugrammatus* in Hawaii, Anon. (14); *C. flavidus*, *C. lividus*, *C. quercinus*, *C. moreleti* & *C. litoglyphus* pl. figs. Hawaii and Indo-Pacific, Kohn & Weaver (2); *C. geographus* "bite" causing death to a native of Hawaii, Anon. (13); *C. (Rhizoconus) gloriakiensis* pp. 248, 258, pl. 17 figs. 6, 7; *C. (R.) urashimani* pp. 249, 259, pl. 17 figs. 13, 14; *C. (Endemiconus) otchimeae* pp. 250, 260, pl. 17 fig. 8; Nada Gobô, Kii Peninsula spp. nov. Japan, Kuroda & Itô; *C. gloriamaris* in the British Museum, figs., Kay, A. (2); *C. leopardus*, *C. sponsalis* & *C. abbreviatus* pl. figs., from Hawaii and Indo Pacific, Kohn & Weaver (1); *C. marginata* Gaskoin photos., Weaver, C. S. (2); *C. marmoreus-bandanus* photo., malformed specimen, Anon. (26); *C. pennaceus* and *C. concatenatus*, variation, Anon. (15); *C. (Asprella) petricosus* sp. nov. p. 302, text-figs. 8, 11; off Toaa, 200 fms. approx.; Japan, Azuma, M. (3); *C. profundus* Kuroda 1956, fig., Anon. (21); *C. pulicarius* photo., freak specimen, Anon. (16); *C. rattus*, *C. pulicarius*, *C. striatus*, *C. pertusus* & *C. catus* pl. figs. Hawaii and Indo-Pacific, Kohn & Weaver (4); *C. terebra* a freak specimen, fig., Anon. (23); *C. vitulinus* Hawaii and Philippines, figs., Anon. (3).

†*Conus testudinarius* pl. 3 Pleistocene, isle of Karpathos, Anapliotis, K. (2); *C. testudinarius* Quaternary, Cabo Negret, Spain, Imperatori, L.

†*Cosmasyrinx makiyamai* sp. nov. p. 98, pl. 7 figs. 6, 10, 16; text-figs. 7, 8; Takanabe beds, L. Pliocene; Hagenoshita Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Cymatosyrinx* (*Splendrillia*) *osawanoensis pulchella* p. 120 pl. 3 fig. 18; text-figs. 14, 15; *C. (S.) lincta hagenoshitaensis* p. 121 pl. 7 fig. 11; text-figs. 14, 15; subsp. nov. L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Daphnella mazatlanica first record in the northern Gulf of California, Shasky, D. R. (4).

Decorihastula gen. nov. Terebridae genotype *Terebra affinis* Gray, pp. 180 & 185, Oyama, K. (1).

Defrancia pagoda (type-sp. of *Pleurotomoides* Bronn 1831) proposal that the species name be accepted, and that the following homonyms of *Defrancia* Bronn 1825 be rejected:—*Defrancia* Millet 1826 & *Defrancia* Møller 1842, Bailly, J. L. (2).

†*Etrema hyugaensis* sp. nov. p. 134 pl. 8 fig. 5; pl. 10, fig. 10; text-figs. 18, 19; L. Pliocene, Hagenoshita Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Filodrillia oyamai* sp. nov. p. 135 pl. 8 fig. 1; pl. 10 fig. 11; text-figs. 17, 18; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Floraconus wallangra sp. nov. trawled in 75 fms. east of Stanwell Park N.S.W. p. 29 pl. 1 f. 3, Garrard, T. A.

†*Gemmula* (*Gemmula*) *granosa pulchella* subsp. nov. p. 80 pl. 10 figs. 1, 2; text-figs. 3, 4; Takanabe formation Lower Pliocene, Nihonmatsu; *G. (Ptychosyrinx) nipponicus* sp. nov. p. 81 pl. 3 figs. 7, 8, 13, 19; pl. 7 fig. 14; text-figs. 3, 4; *G. (Kuroshiothurris) hyugaensis* subgen. et sp. nov. p. 82 pl. 3 figs. 2, 3, 4; text-figs. 3, 4; Takanabe formation, L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Genota ramosa palluauensis* form. nov. p. 45, Tortonian, Cabrières d'Aigues (Vaucluse), Palluan (Vendée), Gilbert, M. (2).

Hastula casta, *H. lepida*, *H. hectica*, *H. verreauxi* and *H. diversa* pl. figs., Hawaii and Tropical Pacific, Weaver, C. S. (7); *H. cinerea* occurrence, general study and detailed anatomy, Marcus, Ev. & Er. (1).

Hastulina gen. nov. Terebridae, genotype *Terebra casta* Hinds pp. 179, 183, Oyama, K. (1).

Hastulopsis subgen. nov. of *Hastula* H. & A. Adams 1853, subgenotype *Terebra melanacme* Smith, pp. 179, 181, Oyama, K. (1).

†*Inquisitor totomiensis takamatsuensis* subsp. nov. p. 91, pl. 12 figs. 6a-b; Takamatsu, Atsumi Peninsula Japan, Pleistocene, Hayasaka, S.

†*Kaweka kyushuensis* sp. nov. p. 146 pl. 10 figs. 9, 15; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Kuroshioturris* subgen. nov. p. 82 of *Gemmula* q.v., Shuto, T. (2).

Laeviacus subgen. nov. of *Noditerebra* Cossman 1896; subgenotype *Terebra chibana* Yokoyama, pp. 179, 182, Oyama, K. (1).

Lepiconus illawarra sp. nov. p. 31 pl. 1 fig. 2; trawled in 75 fms. east of Stanwell Park N.S.W., Garrard, T. A.

Mamiconus minnamurra sp. nov. trawled in 60 fms. east of Botany Bay N.S.W. p. 32 pl. 1 f. 4a, b, Garrard, T. A.

†*Maudrillia granulosa* sp. nov. p. 124 pl. 4 figs. 10, 11; text-figs. 12, 13; U. Miocene, Yamaji, Mino mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Micantapex matsumotoi* sp. nov. p. 89 pl. 4 figs. 6, 9; text-fig. 4; Takanabe beds, L. Pliocene; Hagenoshita Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Noditerebra (Diplomeriza) tsudae nom. nov. pro *Strioterebra (Abreticella) osawanoensis* Tauda 1959, belongs to *Diplomeriza*, preoccupied by *Diplomeriza osawanoensis* Tauda 1959, Oyama, K. (4).

Obetoma hanazakiensis sp. 33, pl. 3, fig. 2; Hanazaki one specimen only; *O. uchida* sp. 33 pl. 2 fig. 23; dredged in Akkeshi Bay, Japan spp. nov., Habe, T. (1).

Oenopota okudai sp. nov. p. 31, pl. 3 fig. 7; Akkeshi Bay, Japan closely resembles *O. pleurotomaria* (Couthouy), Habe, T. (1).

†*Opioturris kyushuensis* sp. nov. p. 75 pl. 4 fig. 12; text-figs. 3, 4; Takanabe formation, L. Pliocene; Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

†*Parabathytoma* subgen. nov. p. 87, of *Bathytoma* q.v., Shuto, T. (2).

Philbertia Monterosato 1884, proposal that this name be rejected as a junior objective synonym of *Clathurella* Carpenter 1857, Bailly, J. L. (2).

†*Pleurotoma ingens marocana* var. nov. p. 219 text-fig. 78; pl. 17 figs. 2 & 5; pl. 18 figs. 1-4; Lutetian Eocene Gannour Morocco, Salvan, H.

Pleurotomoides Bronn 1831, type species through *Defrancia* Millet 1826, by designation by Dall 1908, *Defrancia pagoda* Millet 1826, proposal to place *Pleurotomoides* on the Official List of Generic Names, Bailly, J. L. (2).

†*Pseudoinquisitor hyuganus yamajiensis* subsp. nov. p. 114 pl. 7 figs. 1, 2; pl. 8 fig. 18; text-figs. 11, 12; Kawabaru bed, U. Miocene; Yamaji, Mino mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Vol. 98

†*Puha japonica* sp. nov. p. 138 pl. 5 fig. 10; text-figs. 2, 18; L. Pliocene, Hagenoshita, Uwaye mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Rhizoconus advertex sp. nov. trawled in 80 fms. off Moreton Is. Queensland, p. 30 pl. 1 f. 1, Garrard, T. A.

Rhodopetoma akkeshiensis sp. nov. p. 32 pl. 3 fig. 5; dredged in Akkeshi Bay Japan, Habe, T. (1).

†*Spirotropis subdeclivis acuticarinata* subsp. nov. p. 103 pl. 9 fig. 7; text-fig. 8; Kawabaru bed, M. Miocene; Kakoi Sanzai mura, Koyu gun, Miyazaki Pref., Japan, Shuto, T. (2).

Tenaturris nereis from San Felipe (1 mile N. of the lighthouse), Baja California Mexico, range extension, DuShane, H.

Terebra (Strioterebra) berryi p. 26 pl. 5 figs. 5, 6; Puertecitos, Baja California; *T. (S.) ninae* p. 27 pl. 5 figs. 7, 8; Puerto Madero, 30 miles N. of Guatemala border, Chiapas, Mexico spp. nov., Campbell G. B. (2); *T. brunnea* Kuroda 1928 belongs to the group *Noditerebra (Pristiterebra) ? "taylori" (Reeve)*, *T. subulata* (Linnaeus 1767) protoconch resembles that of *Subula dimidiata* (Linnaeus 1758), Oyama, K. (4); *T. dumbauldi* sp. nov. p. 77 pl. 6 fig. 2; pl. 7 figs. 2-5; Panama; also described *T. lingualis*, *T. strigata*, *T. ornata* and *T. robusta*, Hanna & Hertlein; *T. maculata* photo., shell structure, general ecology, Voas, G. L.; *T. ornata* Gray, extension of range north to Puerto Peñasco, Campbell, G. B. (1); *T. salleana* behaviour and locomotion in particular, Kornicker, L. S.

†*Terebra bravo* sp. nov. p. 63, text-fig. 824; Cenomanian Cretaceous, Somolinos (Guadalajara) Spain, Bataller, J. R. (4); *T. inversa* fig. Pliocene, mouth of the West-Scheldt, Mornal, J. M. (1).

Terebridae, taxonomy of Japanese species, new genera and subgenera, Oyama, K. (1); Terebridae, biogeographical notes on Japanese species, Oyama, K. (4).

†Terebridae, systematic revision of species from Japan, Oyama, K. (2).

†*Tomopleura subdifficilis akabanensis* subsp. nov. p. 92 pl. 12 figs. 10-11; Takamatsu, Atsumi Peninsula Japan, Pleistocene, Hayasaka, S.

Turricula murawolga sp. nov. trawled in 75 fms. east of Broken Bay N.S.W. p. 33 pl. 1 f. 8, Garrard, T. A.

†*Turricula (Crenaturricula) bouryi* p. 33 nom. nov. pro *Pleurotoma barreti* Boury 1899 non Guppy 1866, Bartonian Cenozoic, Le Ruel, Paris Basin; *T. (Surcula) lamarki austriacae* subsp. nov. p. 31, Tortonian, Baden, Vöslau, Vienna basin, Gilbert, M. (2).

Turris binda sp. nov. trawled in 75 fms. off Broken Bay, N.S.W. p. 32 pl. 1 f. 7, Garrard, T. A.

†*Turris (Fusiturris) koeneni* nom. nov. p. 20 pro *subfilosa* Koenen non Orbigny, Cenozoic, North Germany Lattorf, Gilbert, M. (2).

Opisthobranchiata

Opisthobranchiata of California—A monographic review: figures, Marcus, Er. (1); Importance of the larval shell in classification, figs., Thompson, T. E. (3).

BULLACEA

†*Actaeon azerbaijanicum* sp. nov. (in coll.) p. 44 and list, Cretaceous, Azerbaijani, Aliiev, G. A. (1); *A. azerbaijanicum* sp. nov. p. 43 pl. 1 fig. 1; Cenomanian, Cretaceous; Agdzhabedi, Azerbaijani, Russia, Aliiev, G. A. (2).

† *Aetaeonella agdschakendensis* sp. nov. (in coll.) p. 45
A. kurdistanica sp. nov. (in coll.) p. 45; *A. azerbaijanica*
 sp. nov. (in coll.) p. 45; *A. praecaucasica* sp. nov. (in coll.),
A. khalilovi sp. nov. (in coll.) p. 44 and list, Cretaceous,
 Azerbaidjan, Aliev, G. A. (1); *A. agdschakendensis* p. 44,
 pl. 1, figs. 4, 5; Agdzhabedi; *A. kurdistanica* p. 45, pl. 1
 figs. 2, 3; *A. azerbaijanica* p. 45 pl. 1 figs. 6, 7; Minor
 Caucasus *A. praecaucasica* p. 46 pl. 2 figs. 2, 3; *A.*
khalilovi p. 47 pl. 3 figs. 2, 3; spp. nov. Agdzhabedi,
 Azerbaidjan, Cretaceous, Aliev, G. A. (2); *A. orientale*
 sp. nov. p. 41 pl. figs. 3a, b; Senonian, Cretaceous;
 Sikhote-Alin Mts., eastern Siberia Vereshchagin &
 Pchelintsev; *A. terterensis* p. 43, pl. 1 fig. 6 pl. 2 figs. 1-2;
 Terterch River; *A. mardakertensis* p. 46 pl. 2 fig. 3;
 pl. 3 fig. 1; Mardakert region; spp. nov. Cretaceous,
 Minor Caucasus, Aliev, O. B. (2).

† "*Acteonina*" *australiensis* sp. nov. Nanutarra forma-
 tion, Western Australia, Cretaceous, pp. 10, 35 pl. 7
 f. 12a-d, Cox, L. R. (1); *A. laevis* sp. nov. p. 198 pl. 41
 fig. 21; Ozerki, Serebryanye Prudy; Jurassic, European
 Russia, Gherasimov, A. P.

† *Avellana revillai* sp. nov. p. 64, text-fig. 825, Maestrich-
 tian, Cretaceous; Sensui (Lérida) Spain, Bataller, J. R.
 (4).

Chelidonura mediterranea sp. nov. p. 44 text-figs. 1, 2;
 Antalya Province near Side (Selimiye) Turkey, Swennen,
 C.; *C. phoca* sp. nov. pp. 1, 3; pl. 1, figs. 18-24; Tomales
 Bay and White Gulch California, Marcus, Er. (1).

Cylichna consobrinoides nom. nov. p. 50 for *Cylichna*
consobrina A. Adams 1862 non Gould 1859, Japan,
 Kuroda & Habe.

Cylichnatys gen. nov. p. 51 of Atyidae, genotype
Bullinella striata Yamakawa, Japan, Kuroda & Habe.

Cylichnina striata range extension to Te Kaha, New
 Zealand, Warren, P. (2).

Doridium gigliottii figs. 4-6; Tannowa, Osaka Bay, eggs,
 veliger development, Hamatani, I. (1).

Eocylichna gen. nov. p. 55 of Triclididae genotype
Cylichna braunsi Yokoyama 1920, Japan, Kuroda &
 Habe.

† *Euconactaeon subconcaus* Kiparisova (in litt.) p.
 158 pl. 24 figs. 19a-c; 20, 21a-b; Jurassic, Vostok
 U.S.S.R., Petrova, G. T. in Krimholz, G.

Haminea hydatis spiral cleavage and early development,
 Grell, K. G.

Lamprohaminea gen. nov. p. 62 of Atyidae genotype
Bulla cymbalum Quoy & Gaimard, Japan, Kuroda &
 Habe.

Microglyphis noguchii p. 137 f. 1, p. 139-140, Enshū-
 nada, Pacific coast, *M. furukawai* p. 137 f. 2, p. 140,
 "Hokkaido" from fish stomach; spp. nov. Japan,
 Kuroda, T. (3).

Neoaetocina gen. nov. p. 71, of Triclididae genotype
Tornatina koyasensis Yokoyama 1927, Japan, Kuroda &
 Habe.

Nipponatys gen. nov. p. 72 of Atyidae genotype *Aty*
volutina A. Adams 1862, Japan, Kuroda & Habe.

Parahaminea gen. nov. p. 75 of Atyidae genotype
Haminea binotata Pilabry 1895, Japan, Kuroda & Habe.

Philina burrowsi sp. nov. p. 131, figs. 1-3; Brisbane
 Waters near Killcare, Broken Bay, New South Wales,
 Burn, R. (1); *P. japonica*, figs. 1-3; Tannowa, Osaka
 Bay; eggs, veliger, development, Hamatani, I. (1).

Philopoa gen. nov. p. 262 of Tornatellidae genotype
P. singularis sp. nov. p. 263 text-figs. 111a-h; Nihoa,
 Hawaiian Islands, Cooke & Kondo.

Pupa Röding 1798, proposed suppression and placement
 on the Rejected and Invalid Names Index, Lemche, H. (3).

Pupidae Winckworth 1945 (type genus *Pupa* Röding
 1798) proposed rejection as invalid because the type genus
 has been suppressed, Lemche, H. (3).

† *Ringicula* (*Ringicula*) *codellana* p. 1010 pl. 120 figs.
 1-3, 6-22; Huerfano Park; R. (R. ?) *angusta* p. 1011
 pl. 120 figs. 4-5; Pantleon Creek spp. nov. Huerfano Co.,
 Colorado, Cretaceous, Kauffman & Pope.

Ringiculospingia nipponica sp. nov. Enshū-nada,
 Japan, p. 137 f. 5 p. 140, Kuroda, T. (3).

Solidula Fischer von Waldheim 1807, type species by
 tautonymy *Bulla solidula* proposal to place *Solidula* on
 the Official List, also *solidula* Linnaeus 1758, in the above
 binomen, Lemche, H. (3).

† *Trochactaeon agbulakhensis* sp. nov. (in coll.) p. 44
T. rugosus sp. nov. (in coll.) p. 44 and list; Cretaceous,
 Azerbaidjan, Aliev, G. A. (1); *T. azerbaijanensis* sp.
 nov. p. 48 pl. 3 figs. 2-3; pl. 4 figs. 1-4; Mardakert region,
 Minor Caucasus Azerbaidjan; Cretaceous, Aliev, O. B. (2);
T. pamiricum sp. nov. p. 16 pl. 4 figs. 3, 4a-5b; Pamir
 Mt Range, Afghanistan, Lusitanian Jurassic, Pchelintsev
 V. F. (2); *T. rugosus* p. 49, pl. 2, fig. 1; pl. 3 fig. 1; pl. 4
 fig. 1; Minor Caucasus, *T. agbulakhensis* p. 50, pl. 4 figs.
 2, 3; Agbulakh, Gadut region Azerbaidjan spp. nov.
 Cenomanian, Cretaceous, Russia, Aliev, G. A. (2).

Vitrohaminea gen. nov. p. 97 of Atyidae genotype
Bulla vitrea A. Adams 1850, Japan, Kuroda & Habe.

APLYSIACEA

Aplysia reciprocal inhibition and excitation in ganglia
Arvanitaki-Chalazonitis & *Chalazonitis* (1); *Aplysia* genera-
 tion potentials of the somatic membrane, *Chalazonitis* &
Arvanitaki-Chalazonitis (1). *A. brunnea* Paterson Inlet 4
 fathoms, Halfmoon Bay 20 fathoms, Leask's Bay on
 rocks, new records Stewart Island, Smith, E.; *A. californica*
 stretch and conduction velocity, Goldman, L.; *A.*
californica and *A. vaccaria* production of toxin producing
 respiratory arrest, Winkler, L. R.; *A. (Neaplysia)*
californica and *A. (A.) vaccaria* reactions to atropine and
 histology of the oesophagus, Winkler & Tilton; *A.*
depilans histochemistry of oocyte ergastoplasm, Bolog-
 nari, A. (2); *A. depilans* the path of the giant cell axons,
 Hughes & Tauc (1); *A. depilans* study of heart structure
 and physiology, Jullien, Cardot, Joly & Verneaux (2);
A. depilans cholinergic transmission mechanisms in
 central synapses, Tauc & Gerschenfeld (2); *A. fasciata*,
A. depilans and *A. californica* slow waves and associated
 spiking in nerve cells, Arvanitaki (-Chalazonitis) &
Chalazonitis (2); *A. fasciata*, *A. depilans* and *A. californica*
 slow changes during and following repetitive synaptic
 activation in ganglion nerve cells, *Chalazonitis* &
Arvanitaki (2); *A. juliana* and *A. kurodai* biology as a
 predator of *Undaria pinnatifida*, Saitō & Nakamura;
A. limacina and *A. depilans* cytochrome systems,
 Martin, A. W.; *A. punctata* voltage-current relations in
 nerve cell membrane, Hagiwara & Saitō.

Aplysia viridescens from Carqueiranne, near Toulon
 and *A. webbi* from Castiglione Algeria; comparative
 anatomical study, figs., Vicente, L.

Dolabella auricula effects of stretching on the beat of
 the isolated ventricle, Matsui, K.; *D. auricula*, effect of
 stretching on the beat of a single muscle bundle from the
 heart, Matsui, Minamisawa & Ai.

PTEROPODA

Carolinia longirostris, *C. globulosa* and *C. inflexa* from
 the plankton caught off Morocco, figs., Furnestin, M.-L.;

C. tridentata, *C. longirostris longirostris*, *C. l. angulata*, *C. l. stragulata*, *C. gibbosa*, *C. uncinata*, *C. globulosa* and *C. inflexa* occurrence, Tokioka, T.

Clio (*Euclio*) *pyramidata* general ecology and distribution, Kramp, P. L.; *C. sulcata* found in the Antarctic at Heard Island in the stomachs of *Pachyptila crassirostris*, *P. desolata* and *Daption capensis*, Ealey & Chittleborough.

Clione limacina, general ecology, distribution off Greenland and general distribution, Kramp, P. L.; *C. limacina* distribution intermediate between oceanic and neritic in the Orkney-Shetland region, Vane, F. R.

Corolla ovata occurrence, Tokioka, T.

Creseis acicula acicula, *C. a. clava*, *C. virgula virgula* and *C. v. conica*, distribution, Tokioka, T.; *C. virgula* and *C. acicula* caught off Morocco in plankton samples, figs., Furnestin, M.-L.

Cymbulia sibogae occurrence, Tokioka, T.

Desmopteris papilio distribution, Tokioka, T.

Diarcia trispinosa and *D. quadridentata* figs. caught off Morocco in the plankton, Furnestin, M.-L.; *D. trispinosa trispinosa* and *D. quadridentata quadridentata* distribution, Tokioka, T.; *D. trispinosa* oceanic distribution in the N.E. Atlantic and North Sea, Vane, F. R.

Eucio pyramidata, *E. cuspidata* and *E. balantium* caught in the plankton off Morocco, figs., Furnestin, M.-L.; *E. pyramidata*, *E. cuspidata* and *E. balantium* figs. shell and occurrence, Tokioka, T.

Hyalocylis striata figs., caught in plankton samples off Morocco, Furnestin, M.-L.; *H. striata* distribution, Tokioka, T.

Hydromyles globulosa distribution, Tokioka, T.

Limacina balea collected in the plankton at Heard Island, Antarctica, Ealey & Chittleborough; *L. helicina* and *L. retroversa* general ecology and distribution off Greenland, Kramp, P. L.; *L. helicina*, *L. trochiformis*, *L. inflata*, *L. leuurei* & *L. bulimoides* opercula and distribution, Tokioka, T.

Peracelis apicifurva found in the plankton off Morocco, Furnestin, M.-L.; *P. reticulata* and *P. apicifurva* figs. occurrence, Tokioka, T.

Pneumodermopsis ciliata from Shetland waters and *P. paucidentata* from the North Sea for the first time in 1960, Cooper & Forsyth.

Spiratella (= *Limacina*) *retroversa* intermediate distribution in the North Sea and N.E. Atlantic, Vane, F. R.; *S.* (= *Limacina*) *trochiformis*, *S.* (= *L.*) *inflata*, *S.* (= *L.*) *bulimoides* and *S.* (= *L.*) *helicoidea* in plankton caught off Morocco, figs., Furnestin, M.-L.

Spongiobranchaea australis collected in the plankton at Heard Island, Antarctica, Ealey & Chittleborough.

Styliola subula caught in plankton samples off Morocco figs., Furnestin, M.-L.; *S. subula* distribution, Tokioka, T.

Thliptodon akatekai distribution, Tokioka, T.

SACOGLOSSA

ELYSIACEA

Arthressa evansi sp. nov. p. 112 fig. 1; Diamond Head Beach Park, Oahu, Hawaii, Kay, A. (6).

Cotasiella formicaria (Baba 1959) = *Stiliger* (*Stiliger*) *formicarius* Baba 1959, Baba, K. (2).

Elysia hedgpethi sp. nov. pp. 2, 13; pl. 2, figs. 38-40; Tomales Bay, California, Marcus, Er. (1).

Ercolania costai structure and colour of dorsal appendages, Bärigin-Wyaz, U.

Euthyneura, cytotaxonomy, phylogenetic arrangements with particular reference to chromosome numbers, Inaba, A.

Hermacina smithi biology, figs. anatomy and systematic from the west coast of North America, Honor, J. J.; *H. smithi* sp. nov. pp. 2, 12; pl. 2, figs. 33-37; Tomales Bay, California, Marcus, Er. (1).

Ozyna viridis Misaki, Sagami Bay comparative anatomy, Baba, K. (1).

TAMANOVALVAEA

Berthelinia on the habitat and food alga *Caulerpa*—photography of specimens, Smith, A. G. (2); *B. (Edentellina) chloris belvederica* subsp. nov. p. 53 figs. 18, 19, 21-24, 27-32 pl. 5 lower fig.; Puerto Ballandra Bay, 10 miles NE of La Paz, Baja California; *B. (E.) limax* Tamano Bay, Japan color photo. of adult on food plant *Caulerpa okamura*, classification study, Keen & Smith; *B. limax* shell structure and conchometry, mantle histology, Kawaguti & Yamasu (1); *B. limax* self fertilization, reproductive organs and behaviour, Kawaguti & Yamasu (2); *B. limax* Kawaguti and Baba, on breeding and the young, Smith, A. G. (1); *B. typica* [Edentellina]; *B. limax* [Tamanovalva]; *B. chloris belvederica*; *B. typica* [?]; *B. australis* [Midorigai] shells and radulae; species contained in the genus *Berthelinia* and classification if *Berthelinia*, *Ludovicina*, *Anomalomya*, *Edentellina*, *Tamanovalva* and *Midorigai* are united in a single genus, Baba, K. (3).

†*Berthelinia burni* sp. nov. p. 229 pl. 12, figs. 1-4; Elizabeth Oval Bore, Hundred of Munno Para, Section 3128, 15 miles N. of Adelaide at 392-417 feet depth, Australia, late Tertiary probably Pliocene, Ludbrook & Steel.

Berthelininae notes on the bivalved "univalves," Morrison, J. P. E. (1).

Edentellina typica Flinders Victoria, comparative anatomy, Baba, K. (1).

Julia notes on systematic position and proposal by Myra Keen 1961, to unite *Julia* and *Berthelinia* in the Juliidae, this latter being subdivided into Juliinae and *Berthelininae*, Baba, K. (3).

Juliidae notes on the bivalved "univalves," Morrison, J. P. E. (1).

Lobiger sagamiensis Misaki Sagami Bay, comparative anatomy, Baba, K. (1).

Midorigai Burn 1960, *Berthelininae*, notes on the genus, type species *M. australis* Burn original designation, Keen & Smith; *M. australis*, Torquay Victoria, comparative anatomy, Baba, K. (1).

Tamanovalva limax identification and affinity, Japan, comparative anatomy, references to works related to *Tamanovalva* and other bivalved sacoglossans, Baba, K. (1).

Nudibranchiata

Nudibranchiata of Southern California, name changes, Steinberg, J. E.

DORIDACEA

Ancula evelinae sp. nov. p. 144, figs. 10-14; Beaufort, North Carolina, Marcus, Er. (2).

Cadlina sp. nov. (to be described in a later work) p. 66, La Jolla to the Coronados Islands, California, rare subtidally to 140 feet, Lance, J. R.

Ceratosoma brevicaudatum from Victoria, notes whilst in captivity, Burn, R. (2).

Chromodoris sp. described by Guernsey (1912) is as suggested by O'Donoghue (1926) *Glossodoris californiensis* (Bergh 1879), Steinberg, J. E.; *Chromodoris aila* sp. nov. p. 141, figs. 1-3; Beaufort, North Carolina, Marcus, Er. (2).

Corambella sp. nov. p. 67 (to be described in a later work) June and July, Vancouver Island to Point Eugenia (Monterey), Lance, J. R.

Crimora coneja sp. nov. pp. 2, 25 pl. 5 figs. 77-83; Point Loma, California, Marcus, Er. (1).

Doriopsilla leia p. 144 figs. 15-18; *D. pharpa* p. 146 figs. 19-21; spp. nov. Beaufort, North Carolina, Marcus, Er. (2).

Doriopsis (= *Ctenodoris* Eliot 1907, *Guyonia* Risbec 1928) *aurantiaca* Sagami Bay; Kii, Osaka Bay, Amakusa and Toyama Bay, *D. viridis* fig. 1; Hatakejima, Tanabe Bay, Kii; general notes, Baba & Hamatani; *D. fulva* MacFarland (Guernsey 1912, described) and *Doris* sp. also Guernsey 1912, are both *Dendrodoris albopunctata* (Cooper 1863), Steinberg, J. E.; *D. viridis* figs. 1-3; and *D. aurantiaca* figs. 4, 5; early development, veligers, and general study, Japan, Hamatani, I. (2).

Doris japonica voltage-current relations in nerve cell membrane, Hagiwara & Saito.

Drepaniella gen. nov. p. 102, of Goniodorididae type species *D. mapae* sp. nov. p. 102, Point Danger, Torquay, Victoria, Australia text-figs. 1, 2; key to the 9 genera of Goniodorididae, Burn, R. (3).

Eucrairia nom. nov. proposed p. 51 for *Drepaniella* Burn 1961 non Del Guercio 1913; to be included in this genus *Ancula fugeiensis* Odhner with the radula formula 1.1.0.1.1, Burn, R. (4).

Glossodoris arbuta sp. nov. p. 55, pl. 15, figs. 1, 2; Point Danger, Torquay, Victoria, Burn, R. (5); *G. gracilis* structure and colour of dorsal appendages, Bürgin-Wyss, U.

Goniodoris sugashimae figs. 7-10, Kada, Tannowa; eggs, veliger, development, Hamatani, I. (1).

Necromantes Gistel [1847] proposal that this name be rejected as a junior objective synonym of *Tritonia* Cuvier [1797], Lemche, H. (1).

Okenia (*Okenia*) *babai* sp. nov. p. 363, fig. 1, A-D; Tannowa, Osaka Bay, Japan, Hamatani, I. (3).

Onchidoris muricata life history, Menai Straits, Thompson, T. E. (4).

Peltodoris atomaculata ecology, reproduction, spicules and development of pattern, skin structure, Haefelfinger, H. R. (2).

Phyllidia bataviae Pruvot-Fol designation of type, Eken, C. J. v.

Polycera sp. nov. (to be described in a later work) p. 66, on offshore kelp June to September; Laguna Beach to the Coronados Islands, Lance, J. R.; *P. chilluna* sp. nov. p. 143, figs. 6-9; Beaufort, North Carolina, Marcus, Er. (2); *P. elegans* occurrence at Plymouth, England, compared with Mediterranean forms and with *P. atlantica* and *P. messinensis*, concluded these should all belong to *P. elegans* Bergh, ecology discussed, Edmunds, M.

Taringa armata sp. nov. p. 64, text figs. 14, 15; Antalya Province, Antalya, Turkey, Swennen, C.

Tritonia Cuvier [1797] proposal that this name be placed on the Official List; and that *Tritonia hombergii* Cuvier 1803, be designated the type-species, *hombergii* in this binomen being accepted, Lemche, H. (1); *T. hombergi* structure and mode of functioning of reproductive

organs, Thompson, T. E. (1); *T. (Tritonidoxa) wellsi* sp. nov. p. 146 figs. 22-24; Beaufort, North Carolina, Marcus, Er. (2).

Tritoniidae Bergh 1884, proposal that this name be rejected as an incorrect spelling of Tritoniidae H. & A. Adams 1858, Lemche, H. (1).

Tritoniidae H. & A. Adams 1858, proposal that this name be accepted with the type-genus *Tritonia* Cuvier [1797], Lemche, H. (1).

AEOLIDIACEA

Calmella cavolinii new to the Black Sea, also from the Sea of Marmara, the Adriatic and the Mediterranean Seas, ecology, Gomoio, M.-T.

Capellinia rustya sp. nov. pp. 2, 49 pl. 9 figs. 168-172; Monterey Bay, California, Marcus, Er. (1).

Catriona pupillae p. 368 pl. 14 figs. 1a, b-5; text-fig. 1a; Kada; *C. signifera* p. 369, pl. 14 figs. 6a, b-9; pl. 15, figs. 1, 2; text-fig. 16; Tannowa, Osaka Bay; Mukaishima; *C. purpureoanulata* p. 370 pl. 15, figs. 3a, b-8; text-fig. 1c; Seto Kii; spp. nov. Japan, Baba, K. (2); *C. ronga* sp. nov. pp. 2, 52; pl. 10 fig. 185-187 Point Pinos, Pacific Grove, California, Marcus, Er. (1).

Coryphella lineata and *C. pedata* structure and colour of dorsal appendages, Bürgin-Wyss, U.; *C. pinna* sp. nov. pp. 2, 47; pl. 9 figs. 161-167, Dillon Beach, California, Marcus, Er. (1).

Coryphellina rubrolineata from Ilha das Palmas, figs., radula, reproductive organs, egg string, external anatomy and ecology, Marcus, Er. & Er. (4).

Dendronotus frondosus serotonin-like substances in embryogenesis, Buznikov & Manukhin.

Doto amya sp. nov. pp. 2, 38; pl. 7 figs. 130-134; Monterey Bay; *D. ganda* pp. 2, 39; pl. 7 figs. 135-138; Dillon Beach; *D. kya* pp. 2, 39; pl. 8 figs. 139-142; Point Pinos; *D. wara* pp. 2, 40; pl. 8 figs. 143-146; Dillon Beach spp. nov. California, Marcus, Er. (1); *D. coronata* (= *Idulia maculata*) Black Sea, ecology, Gomoio, M.-T.; *D. pontica* sp. nov. p. 68, text-fig. 17 Trabzon Province, NW of Akçaabat, Turkey, Swennen, C.

Embletonia pulchra ecology, Black Sea, Gomoio, M.-T.

Eolidina (*Eolidina*) *mannarensis* sp. nov. p. 6, text-figs. 1-4; Gulf of Mannar, Mandapam India, Rao & Alagar-swami.

Eubranchius misakiensis figs. 6-8; early development, veligers, general study, Osaka Bay, Japan, Hamatani, I. (2).

Facelina punctata and *F. drummondii* structure and colour of dorsal appendages, Bürgin-Wyss, U.

†*Fimbria somensis* sp. nov. p. 120 pl. 16, figs. 11-13; Sugaya, Soma City, Fukushima Pref., NE Japan, Jurassic, Hayami, I. (2).

Hervia costai structure and colour of dorsal appendages, Bürgin-Wyss, U.; *H. costai* nom. nov. p. 209, pro *Eolis peregrina* Costa 1866; non *Doris peregrina* Gmelin 1789; non *Eolis peregrina* Lam. 1835; non *E. p. Delle Chiaje* 1923; non *Cavolinia* p. Guérin 1831; *Caloria maculata* Vayssière 1913; *Caloria maculata* Pruvot-Fol 1954, Haefelfinger, H. R. (1); *H. lagunae* O'Donoghue 1926, proposal that this name be considered a *nomen dubium* since it was based on Guernsey's description of *Hervia* sp.? 1912; *Hervia* Bergh 1871, is now considered a synonym of *Facelina* Alder & Hancock 1855, Steinberg, J. E.

Misea gen. nov. p. 148 of Dotonidae genotype *Misea evelinae* Marcus 1957, originally described as *Embletonia*

celinae but now placed in a new family as the genotype of *Miesea*, fig. 25; Beaufort, North Carolina, also Brazil, the coast of São Paulo, Marcus, Er. (2).

Narraeolida gen. nov. p. 134 of Cuthonidae type-sp. *N. colmani* sp. nov. p. 134 fig. 4; Long Reef, Narrabeen, New South Wales. Burn, R. (1).

Phidiana sp. nov. p. 68 (to be described in a later work) Monterey to the Coronados Islands, common subtidally to 120 feet, Lance, J. R.

Precuthona divae sp. nov. pp. 2, 50; pl. 10 figs. 180-184; Dillon Beach, California, Marcus, Er. (1).

Pseudovermis cf. *schulzei* first record of this family in Britain from Traeth Bychan, Anglesey, Boaden, P. J. S.; *P. selensis* sp. nov. p. 254, text-figs. 1a-e; 2a-d; Languedoc coast, France, Fize, A.

Spurilla sp. Guernsey 1912, was more completely described by O'Donoghue 1927, as *Eolidina orientalis*; subsequently synonymised with *Spurilla chromosoma* Cockerell & Eliot 1905, by Marcus (1961), Steinberg, J. E.

Tergipes edwardsi & *T. adoperus* ecology, Black Sea, Gomoïu, M.-T.

Trinchesia coerulea structure, dorsal appendages, regeneration, colouration (fig.) and general study, Bürgin-Wyss, U.

Pulmonata

Pulmonata and their speciation in the Rovinj Archipelago, Mediterranean, Bole, Brelih & Zei; Importance of pulmonates in soil biology; their habits and habitats, Kühnelt, W.

BASOMMATOPHORA

ELLOBIACEA

Carychium stygium blind cave snail, Sumner Co., Tennessee, Barr, T. C.

†*Carychium tridentatum* photo Quaternary, Czechoslovakia, Žabera, Lošek, Knebllová, Fejfar & Masálek.

Microtralia actecoides sp. nov. Magarizaki, Kyushu, Japan pp. 419, (428) f. 9, Kuroda & Habe in Habe, T. (10).

Phytia myosotis from the littoral zone of Danish beaches, Bondesen, P.

SIPHONARIACEA

Siphonacmea gen. nov. p. 35 of Siphonariidae genotype *Acmæa oblongata* Yokoyama 1926, p. 35, pl. 2, figs. 3, 4; Lake Akkeshi, distribution Hokkaido, Sado Island in Japan sea as a Pliocene fossil, Habe, T. (1).

Siphonaria denticulata new intermediate host of schistosome trematodes in New South Wales, Ewers, W. H.; *S. hispida* anatomical study of Brazilian species, Marcus, Ev. & Er. (2).

LYMNÆACEA

Aerolozus lacustris cytological study of spermatogenesis, Burch, J. B. (5).

Acorbidae fam. nov. p. 52 of Basommatophora for *Acorbis* Odhner 1937, Scott, M. I. H.

Ancylostomum fluviatile parasitized by oligochaetes, Dollfus, R. P.; *A. vitraceum* carried by a ♀ *Meladema coriaceum*, Théodorides, J.

Ancyliada types in the Berlin Zoological Museum, Kilias, R.

Ancylos fluviatilis variations in growth and density of natural west of Scotland populations, Hunter, W. R. (1); *A. fluviatilis* distribution and shell structure correlations, photo., Miegel, H. (3); *A. fluviatilis* [= *Ancylostomum*

fluviatile] carried by *Dytiscus marginalis*, Théodorides, J.

Anisus contortus and *A. leucostoma* survival in diluted seawater, Klekowski, R. Z. (2); *A. natalensis* in the polluted Upper Reach and the Klein Jukskei River, Allanson & Gieskes.

Aplexa hypnorum excretion of radioactive isotopes, Getsova, A. B.

Armigerus Clessin 1884, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright.

Australorbis Pilsbry 1934, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright; *A. glabratus* Say 1818, from Pampulha Lake, Belo Horizonte Minas Gerais State, Brazil, ecology, habitat and population study, Andrade & Freitas; *A. glabratus* use of ⁴⁵Ca in studies of dispersion, longevity and range, Azevedo, Barreira, Gil & Gomes; *A. glabratus*, effect of Bayer 73 as molluscicide when incorporated in soap, Azevedo & Pequeto; *A. glabratus* and *A. nigricans* from Brazil are completely isolated reproductively from *Biomphalaria pfeifferi* (S.E. African species), Barbosa, Carneiro & Barbosa (2); *A. glabratus* survival of explants in artificial medium, Benex, J.; *A. glabratus* radioactive study of a new molluscicide, Bayluscid, Duhm, Maul, Medenwald, Patzschke & Wegner; *A. glabratus* quantity and infectivity of *Schistosoma mansoni* cercariae, Erickson & Caldwell; *A. glabratus* growth and reproduction when fed alginated food, Erickson, Ritchie & Caldwell; *A. glabratus* molluscicidal effects of Bayluscid, Gönner & Strute; *A. glabratus* resistance to desiccation in temporary pools, Klekowski, R. Z. (3); *A. glabratus* blood sugar levels, Martin, A. W.; *A. glabratus* effect of temperature on growth and reproduction in the laboratory, Michelson, E. H. (3); *A. glabratus* vector of bilharzia, control attempts, Muller, R. (1); *A. glabratus* and *A. tenagophilus* populations sampled to ascertain the comparative value of conchological and anatomical methods for species identification, Paraense, W. L. (1); *A. glabratus* (Say 1818) nomenclature, Brazil; following considered as junior synonyms *Planorbis guadalupensis* Sowerby 1822; *P. olivaceus* Spix 1827; *P. ferrugineus* Spix 1827; *P. lugubris* Wagner 1827; *P. nigricans* Spix 1827; *P. albescens* Spix 1827; *P. viridis* Spix 1827; *P. lundii* Beck 1837; *P. cumingianus* Dunker 1848; *P. becki* Dunker 1856 and *P. bahiensis* Dunker 1856 (part.), Paraense, W. L. (2); *A. glabratus* field observation of migration of marked snails, Radke & Ritchie; *A. glabratus* demonstrated control in the field by *Marisa cornuarietis*, Radke, Ritchie & Ferguson; *A. glabratus* growth rate, age at onset of egg laying, egg production and life span, Ritchie, Berrios-Duran, Deweese & Rosa-Amador; *A. glabratus* control with a new molluscicide, Schrautstätter, Meiser & Gönner; *A. glabratus* population distribution dependant on water velocity in N. Venezuela, Scorza, Silva, Gonzales & Machado; *A. glabratus* behaviour of schistosome miracidia and subsequent tissue studies of their host, Sudds Jr., R. H.; *A. glabratus* infection with *Bacillus pinotii* not lethal, Tripp, M. R. (1); *A. glabratus* fate of experimentally introduced foreign materials, Tripp, M. R. (2); *A. glabratus* olivaceus Golgi apparatus and spermiogenesis, Barth & Jansen; *A. tenagophilus* (Orbigny 1835) nomenclature; following species names are considered junior synonyms of *A. tenagophilus*: *Planorbis ferrugineus* Orbigny 1835 (nec Spix 1827), *P. bahiensis* Dunker 1856 (pro parte), *P. biangulatus* Sowerby 1878, *P. nigricans* Lutz 1918 (nec Spix 1827), *P. immunis* Lutz 1918, *Australorbis amphiglyptus* Pilsbry 1951 and *A. camerunensis* Lucena 1953 (nec Boettger 1941), Paraense, W. L. (3).

Biomphalaria, molluscs of this tribe from Africa and South America, general study, Barbosa & Carneiro da

Silva; *Biomphalaria* Preston 1910, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright; *Biomphalaria* spp. comparative laboratory tests with the molluscicides Bayer 73 and ICI 24223, Gillet & Bruaux; *Biomphalaria* sp. vector of *Schistosoma haematobium* in Mauritania, Marill, F.-G.; *B. alexandrina* intermediate host of *Schistosoma* in the Sudan, Rahman & Sharaf Ed Din; *B. s. alexandrina* physical and chemical factors of ecology, host of bilharziasis, Gohar & El-Gindy; *B. boiseyi* molluscicidal effects of Bayluscid, Gönner & Strufe; *B. pfeifferi* from S. Africa found to be morphologically distinct from *Tropicorbis centimetralis* (Brazil) and reproductively isolated from *T. centimetralis*, *Australorbis glabratus* and *A. nigricans* (Brazil), Barbosa, Carneiro & Barbosa (2); *B. pfeifferi* host of *Schistosoma mansoni* in French Guinea, W. Africa, Odel, M. A. (2); *B. pfeifferi* *bridouxiana* and *B. sudanica* *sudanica* trials of a new molluscicide Bayer 73, in Tanganyika, Webbe, G.; *B. pfeifferi* *gaudi* relict fauna of the Bandiagara plateau, Daget, J. (2); *B. pfeifferi* *gaudi* control by means of "ziram," Senegal, Gretillat, S. (2); *B. pfeifferi* *gaudi* photo., host to *Schistosoma mansoni* in West Africa, Odel, M. A. (3); *B. sudanica* attempted infection with *Acanthamoeba*, Gatz, L. L.

Bulinus (*Pyrgophysa*) sp. vector of *Schistosoma haematobium* in Mauritania, Marill, F.-G.; *Bulinus*, intermediate host of *Schistosoma haematobium*, taxonomic problems, Wright, C. A.; *B. (Physopsis) africanus africanus*, *B. (P.) globosus*, bilharziasis vectors in Mozambique, detailed study of ecology, biology and distribution, Asavedo, Medeiros, Faro et al.; *B. (Bulinus) forskalii* new to the fauna of Somalia, Forcart, L. (2); *B. (Bulinus) forskalii* and *B. (Physopsis) abyssinicus* first records for Lower Jubaland Somalia, biological significance, Maff, M.; *B. (Physopsis) globosus*, *B. (P.) africanus ovoides* and *B. (P.) nasutus* survey of vectors of bilharziasis in Tanganyika, Maclean, Webbe & Msangi; *B. globosus* host of *Schistosoma haematobium* in French Guinea, W. Africa, Odel, M. A. (2); *B. globosus*, *B. jousseaumei*, *B. truncatus rholfi*, *B. guernei*, *B. senegalensis* and *B. forskalii* hosts to *Schistosoma mansoni* and *S. haematobium* in West Africa, photos., Odel, M. A. (3); *B. guernei* host to bilharziasis and *B. senegalensis* population study and control in Senegal, Gretillat, S. (1); *B. guernei* and *B. senegalensis* control by means of "ziram" in Senegal, Gretillat, S. (2); *B. (Physopsis) nasutus*, *B. (B.) coulboisi* and *B. (B.) forskalii* trials of a new molluscicide Bayer 73, in Tanganyika, Webbe, G.; *B. senegalensis*, *B. jousseaumei*, *B. guernei*, *B. globosus* and *B. forskalii* hosts to *Schistosoma mansoni* in Gambia; study of distribution of snail hosts in West Africa, Odel, M. A. (1); *B. striatulus* species problem in Japan, Sugihara, H.; *B. truncatus* molluscicidal techniques against vectors of bilharziasis, Deschiena, R.; *B. truncatus* host of bilharziasis, ecological factors, Gohar & El-Gindy; *B. truncatus* intermediate host of urinary bilharziasis in Iraq, studies on population, size and fecundity, Najarian, H. H.; *B. truncatus* from Iraq, attempts at infection with Egyptian *Schistosoma*, Najim & Al-Saad; *B. truncatus* host to bilharziasis in Basra, Iraq, Najarian, Araoz, Klimt, Ani & Asnawi; *B. (B.) truncatus* intermediate host of *Schistosoma* in the Sudan, Rahman & Sharaf Ed Din; *B. truncatus* breeding in total darkness, Watson & Al-Ali; *B. (Physopsis) ugandae* and *B. (B.) truncatus* natural and experimental infections with *Schistosoma bovis*, Malek, E. A.

Burnupia sp. cf. *cafra* (Krauss) from Addis Ababa, 9,000 ft., shell and anatomy, comparison with *Ferrissia*, Brown, D. S.

Chilinae types in the Berlin Zoological Museum, Kilias, R.

†*Choanophthalus fossilis* p. 13 sp. nov. nom. nud. Miocene, Prebaikal region ASSR, Naletov, P. I.

Coretus [= *Planorbis*] *corneus* gas compression in the lungs of desiccating snails, Klekowski, R. Z. (1).

Drepanotrema anatinum, *D. aeruginosus*, *D. lucidus*, *D. kermatensis*, anatomy, Hubendick, B.

Ferrissia anatomy compared with *Burnupia*, Brown, D. S.

Ferrissidae types in the Berlin Zoological Museum, Kilias, R.

Galba doddei and *G. dalli* new to Wyoming, Bostie, D. E. (1); *G. truncata* accomplishment of control, Enigk & Düwal.

Gundlachia sp. structure of neuro-endocrine complex, Wautier, Cecatty, Richardot et al.; *G. petterdi* shell structure, radula and general notes from N. France, Wautier & Odievre.

Gyraulus arizonensis reported for the first time from Texas, Branson, B. A. (3); *G. circumstriatus* biological effects of pollutants in streams, Wurts & Bridges; *G. ehrenbergi* from Iraq, attempts at infection with *Schistosoma* from Egypt, Najim & Al-Saad; *G. fouladougouensis* relict fauna of the Bandiagara plateau, Daget, J. (2); *G. riparius* distribution in Finland, Koli, L. (1).

†*Gyraulus quadrangulus bassarabicus* var. nov. p. 323, pl. 5, figs. 81-83; Dacia, Caracurt (Ismail); Bessarabia. Roumania, Macarovici, N.

Helicoma sp. from Central America, anatomy, Hubendick, B.; *H. anceps*, isolation of acid-fast pathogen used in biological control of schistosomiasis snail vectors, Michelson, E. H. (2); *H. campanulata* biological effect of pollutants in streams, Wurts & Bridges; *H. campanulata* infected by *Haplosporidium* sp. nov. in South Fish Tail Bay, Michigan, Barrow, Jr., J. H.

Limnaea see *Lymnaea*.

Lymnaea spp. comparative laboratory tests with the molluscicides Bayer 73 and ICI 24223, Gillet & Bruaux; *L. africana* molluscicidal technique against vectors of bilharziasis, Deschiena, R.; *L. auricularia* oxygen consumption experiments, Berg, K.; *L. caillaudi* intermediate host of *Fasciola gigantica* in Egypt, effect of salinity of water, Ezziat, M. A. E.; *L. caillaudi*, host of bilharziasis, ecological factors, Gohar & El-Gindy; *L. caillaudi* control by means of "ziram" in Senegal, Gretillat, S. (2); *L. columella* in the polluted Upper Reach and the Klein Jukakei River, Allanson & Gieskes; *L. (Stagnicola) emarginata* infected by *Haplosporidium* sp. nov. in Emmet Co., Michigan, Barrow, Jr., J. H.; *L. humilis* life history and growth, McCraw, B. M.; *L. natalensis* comparative effects of molluscicides on eggs, Bruaux & Gillet; *L. natalensis* relict fauna of the Bandiagara plateau, Daget, J. (2); *L. natalensis* trials of a new molluscicide Bayer 73, in Tanganyika, Webbe, G.; *L. peregra* radula variations in N.W. Europe, Barrie, A. D.; *L. peregra* comparison of foot histology with *Discus rotundatus*, Elves, M. W.; *L. peregra* variations in natural populations in the west of Scotland, Hunter, W. R. (1); *L. peregra* life cycle in a limited population in Loch Lomond, Hunter, W. R. (2); *L. stagnalis* neurosecretion, Altmann & Kuhnen-Clausen; *L. stagnalis* spontaneous parthenogenetic development of eggs, Bretschneider, L. H.; *L. (Lymnaea) stagnalis*; *L. (Radix) auricularia*, *L. (R.) limosa* and *L. (Stagnicola) palustris* list of parasites, Dollfus, R. P.; *L. stagnalis* contamination of the environment by cerium-144, Fontaine & Aeberhardt; *L. stagnalis* molluscicidal effects of Bayluscid, Gönner & Strufe; *L. stagnalis* gas compression in the lungs of desiccating snails, Klekowski, R. Z. (1); *L. stagnalis* resistance to desiccation in tem-

porary pools, Klekowski, R. Z. (3); *L. stagnalis* pleural ganglia and water balance, Lever, Jansen & Vlieger; *L. stagnalis* influence of salinity of the medium on neurosecretory cells and their endocrinology, Lever & Joosse; *L. stagnalis* location of Gomori-positive neurosecretory cells in the central ganglia, Lever, Kok, Meuleman et al.; *L. stagnalis* cellular respiration of muscles, Mattisson, A. G. M. (1); *L. stagnalis* flavin content of foot muscles, Mattisson, A. G. M. (2); *L. stagnalis* resistance to drought, Matske, M. G. (2); *L. stagnalis* centrifugation of eggs immediately before third cleavage, Raven & Tates; *L. stagnalis* development of the pulmonary and pallial cavities, Régnaud, J. (1); *L. stagnalis* formation of the nervous system and torsion, Régnaud, J. (2); *L. stagnalis* shell variation, Terentjev, P. V.; *L. stagnalis* and *L. peregra* "membrane knotting" between blastomeres, Waddington, Perry & Okada; *L. stagnalis* appressa, *L. palustris* and *L. stagnalis*, behaviour of schistosome miracidia and subsequent tissue studies of their hosts, Sudds Jr., R. H.; *L. stagnalis* jugularis free amino acids in haemolymph, experimental paper and column chromatography, Friedl, F. E.; *L. tomentosa* Pfeiffer 1855 concluded as the only species which acts as an intermediate host for *Fasciola hepatica* in both Australia and New Zealand, Boray & McMichael; *L. (Galba) trunculata*, Touxé, Iran, Starmühlner, F.

Lymnaeidae types in the Berlin Zoological Museum, Killas, R.

Myxas glutinosa oxygen consumption experiments, Berg, K.

Physa acuta distribution and general note, Akramovskii & Aliev; *P. fontinalis* oxygen consumption experiments, Berg, K.; *P. fontinalis* histology of foot compared with *Discus rotundatus*, Elmes, M. W.; *P. fontinalis* variations in natural populations in the west of Scotland, Hunter, W. R. (1); *P. fontinalis* inter-population studies, growth rates and breeding season intensities, Hunter, W. R. (2); *P. fontinalis* and *P. acuta* photos., from the R. Oder, Moravia, Czechoslovakia, Mácha, S.; *Physa* cf. *fontinalis* figs. 1-5; first record from Iraq, Najim, A. T.; *Physa* cf. *fontinalis* from Iraq, attempts at infection with Egyptian *Schistosoma*, Najim & Al-Saad; *P. heterostrophus* biological effect of pollutants in streams, Wurts & Bridges; *P. integra* results of experiments on the apparent geotactic behaviour, table, McClary, A.; *P. parkeri* infected by *Haplosporidium* sp. nov. in Presque Island, Lake Huron, Michigan, Barrow, Jr., J. H.; *P. parkeri* behaviour of schistosome miracidia and subsequent tissue study of their host, Sudds Jr., R. H.; *P. skinneri* new to Wyoming, Beetle, D. E. (1).

†*Physa wichmanni* sp. nov. p. 1, fig. 1, 1-6; Bajo Santa Rosa, Argentina, Danian Cretaceous, *P. doeringi* fig. 1, 7-8 same locality and age, Parodiz, J. J. (2).

Physidae types in the Berlin Zoological Museum, Killas, R.

Physopsis spp. comparative laboratory tests with the molluscicides Bay 73 and ICI 24223, Gillet & Braux; *Physopsis globosa* molluscicidal techniques against vectors of bilharzia, Deschiens, R.

Planorbis cornutus, haploid chromosome number = 18; value of chromosome numbers in systematics, Burch, J. B. (4); *P. cornutus* drought resistance, Matske, M. (2); *P. cornutus* in Lake Östernsjöarna due to artificial stocking before 1897, Skland, J.; *P. metidjensis* anatomy, infection with *Schistosoma mansoni*, Barbosa, Carneiro & Barbosa (1).

Planorbina Haldeman 1842, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright; *P. gracilentus* range extended from Hays Co., to San Patricio Co., Texas, Branson, B. A. (3).

Planorbis albus infraspecific variations in Loch Lomond population, Hunter, W. R. (2); *P. cornutus* functional phases of nucleoli in oocytes, Albanese & Bolognari; *P. cornutus* histochemical survey of the oocyte ergastoplasm, Bolognari, A. (2); *P. (Coretus) cornutus*, *P. (P.) planorbis* and *P. (P.) carinatus* lists of parasites, Dollfus, R. P.; *P. cornutus* resistance to desiccation in temporary pools, Klekowski, R. Z. (3); *P. cornutus* factors limiting spread and range, Macan, T. T.; *P. cornutus* cellular respiration of muscles, Mattisson, A. G. M. (1); *P. cornutus* flavin content of foot muscles, Mattisson, A. G. M. (2); *P. olivaceus*, *P. lugubris* and *P. bahiensis*, variation in shell structure, Parane, W. L. (1); *P. pfeifferi* molluscicidal technique against vectors of bilharzia, Deschiens, R.; *P. planorbis* survival in diluted sea water and during the following desiccation, Klekowski, R. Z. (2); *P. planorbis* resistance to desiccation in temporary pools, Klekowski, R. Z. (3); *P. planorbis* photos., from the R. Oder, Moravia, Czechoslovakia, Mácha, S.; *P. vortex* contamination of the environment by cerium-144, Fontaine & Aeberhardt.

†*Planorbis (Planorbina) euomphalus* Cretaceous, Lauzanier, Gubler, Y.; *P. irenoides* sp. nov. p. 13 nom. nud. Miocene, Buryat ASSR, Naletov, P. I.

Platytyphius Pilsbry 1924, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright.

Promenetus umbilicatus new to Wyoming, Beetle, D. E. (1).

Pyrrophysa forskali molluscicidal technique against vectors of bilharzia, Deschiens, R.

Radix auricularia new to Wyoming, Beetle, D. E. (1).

†*Sandria atava* sp. nov. p. 86, pl. 3, figs. 22, 23, Karant, Crimea, Miocene, Andrusov, N. I. (2).

Segmentina nitida distinguenda shell structure, ecology, Poland, Berger, L.; *S. nitida* survival in diluted seawater, Klekowski, R. Z. (2); *S. nitida* photos., from the R. Oder, Moravia, Czechoslovakia, Mácha, S.

Segmentorhis carringtoni sp. nov. p. 75, pl. xix, figs. 1-7, pl. xx figs. 1-3; pl. xxi figs. 1-4; Mozambique, Azevedo, Medeiros, Faro et al.

Stagnicola palustris molluscicidal effects of Bayluscid, Gönner & Strule.

Taphius Adams & Adams 1855, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright; *T. andecolus* figs., general anatomy and study, Lake Titicaca, Barbosa & Carneiro da Silva; *T. glabratus* and *T. nigricans* (♀) study of sex chromatin, Chagas, Procopio-Valle & Barth; *T. glabratus*, *T. inflexus*, *T. havanensis*, *T. pronus*, *T. peregrinus* anatomy, Hubendick, B.; *T. pfeifferi* biological study and susceptibility to infection by *Schistosoma mansoni* from Brazil and Mozambique, Azevedo, Medeiros, Faro et al.

Tropicorbis Brown & Pilsbry 1914, nomenclatorial analysis, Barbosa, Hubendick, Malek & Wright; *T. centimetralis* from Brazil morphologically distinct and isolated reproductively from S.E. African *Biomphalaria pfeifferi*, Barbosa, Carneiro & Barbosa (2); *T. obstructus* exposed to miracidia of *Schistosoma mansoni* in S. Florida, Leigh, W. H.

†*Undulotheca gojlo* sp. nov. p. 348, text-fig. 8, pl. 21; Croatia, Mergel, Miocene, Moos, A.

†*Velutinopsis transiens* sp. nov. p. 353, text-fig. 10, pl. 22, Grubišino mine, Croatia, Miocene, Moos, A.

Watsonula gen. nov. p. 154 of Ancyliidae genotype *W. wautieri* sp. nov. p. 154, text-figs. 1-25; Mergozzo Lake, Italy, Mirolli, M.

STYLOMMATOPHORA

ONCHIDIACEA

Onchidium membrane changes of nerve cells in K-rich media, Hagiwara, Kusano & Saito; *O. verruculatum* voltage-current relations in nerve cell membrane, Hagiwara & Saito; *O. verruculatum* giant nerve cell electrical activity under abnormal conditions, Oomura, Ozaki & Matsuo.

VAGINULACEA

Semperula maculata arterial system, figs., Kenny & Inamdar.

Veronicella krausi new to Oklahoma, ecology, Oklahoma Co., distribution, Branson, B. A. (2).

SUCCINEACEA

Catinella texana sp. nov. p. 61 pl. 4 figs. F-H, text-fig. 1 F-H, Milan Co., near Brazos River, Texas; *C. pugilator* sp. nov. p. 61 pl. 4 figs. I-K, text-figs. 1D-E, Currituck Co., S. of Maple, N. Carolina, Hubricht, L. (5).

Ozyloma retusa anatomical variations in the reproductive system, Fransen, D.

Succinea campestris vagans Pilsbry 1901, selection of type, Baker, H. B. (1); *S. grosveneri* in a sandy exposed habitat of piñon pine and juniper forest in Colorado, Karlin, E. J. (2); *S. ovalis* infected with microcoelid sporocysts and cercariae of *Lyperosomum*, Vilella, J. B.; *S. pfeifferi* histological and anatomical study of the reproductive system, Duncan, C. J.; *S. putris* embryonic development with particular reference to ooplasmic segregation, Jura, C.; *S. solasta* p. 30 pl. 4 figs. A-C, text-fig. 1B, 5 miles north of Sanderson, Terrell Co., Texas; *S. urbana* p. 32 pl. 4 figs. D & E, text-fig. 1, A. C. Dudley Street and Fairview Avenue, Montgomery, Montgomery Co., Alabama spp. nov., Hubricht, L. (4).
†*Succinea pfeifferi* photo., interglacial, Predmosti, Czechoslovakia, Lošek, V. (10).

ACHATINELLACEA

Achatinellidae, revision of the family, Cooke & Kondo.

Achatinellini tribe nov. p. 274 of Achatinellinae for *Newcombia*, *Perdicella*, *Partulina* and *Achatinella*, Cooke & Kondo.

Aeditans subgen. nov. p. 258 of *Tornatellides* q.v., Cooke & Kondo.

Auriculellini tribe nov. p. 268 of Auriculellinae for *Auriculella* and *Gulickia*, Cooke & Kondo.

Elamellidae subgen. nov. p. 211 of *Lamellidea* q.v., Cooke & Kondo.

Elasmias ovatum exiguum subsp. nov. p. 228 text-fig. 99b, Tautautu Mt., E. simplicium sp. nov. p. 231 text-figs. 101 a-f, Area village Rapa, Austral Islands, Cooke & Kondo.

Elasmatini tribe nov. p. 218, Tornatellinae, for *Elasmas*, Cooke & Kondo.

Lamellidea (*Lamellidea*) *micropleura* sp. nov. p. 193 text-figs. 84 a-f, Moorea, Faatou Valley, Society Is.; *L. (Lamellidea) tantalus* subgen. nov. p. 211, Hawaiian Is., Cooke & Kondo.

Lamellideinae subfam. nov. p. 162 of Achatinellidae for tribes Tornatellinoptini and Lamellideini, Cooke & Kondo.

Lamellideini tribe nov. p. 178 of Lamellideinae for *Lamellidea* q.v., Cooke & Kondo.

Lamellosum (*Maitua*) *auriculella* subgen. et sp. nov. p. 109 text-figs. 48 a-g, 49 a-m, Maitua Valley; *L. (M.)*

leptosira p. 113 text-figs. 50 a-e; *L. (M.) solitaria* p. 114 text-figs. 61 a, b; *L. (M.) costata* p. 115 text-figs. 52 a-e, spp. nov. Mount Perahu, Rapa, Austral Is., Cooke & Kondo.

Maitua subgen. nov. p. 108 of *Lamellosum* q.v., Cooke & Kondo.

Tornatellariini tribe nov. p. 262 of Tornatellidinae for *Philopos* and *Tornatellaria*, Cooke & Kondo.

Tornatellidae, revision of the family, Cooke & Kondo.

Tornatellides (*Tornatellides*) *oblongus parvulus* subsp. nov. p. 255 text-figs. 108 a, b, Henderson Island; *T. (T.) oswaldi* sp. nov. p. 257 text-figs. 109 a-e, Oahu, Moanalua Valley, Hawaiian Islands; *T. (Aeditans) neckeri* subgen. et sp. nov. p. 258 text-figs. 110 a-f, Necker Island, Summit Hill, Hawaiian Islands, Cooke & Kondo.

Tornatellidinae subfam. nov. p. 242 of Achatinellidae for tribes Tornatellidini and Tornatellariini, Cooke & Kondo.

Tornatellidini tribe nov. p. 242 of Tornatellidinae for *Tornatellides*, *Aeditans* and *Waimea*, Cooke & Kondo.

Tornatellini tribe nov. p. 233 of Tornatellinae for *Tornatellina* and *Fernandezia*, Cooke & Kondo.

Tornatellinops concolorans sp. nov. p. 175 text-figs. 79 a-g, 80 a-f, Ahurei, Rapa, Austral Is., Cooke & Kondo; *T. novoseelandica* ecology, Waitomo Caves, Warren, P. (1).

Tornatellinoptini tribe nov. p. 162 Lamellideinae for *Tornatellinops* q.v., Cooke & Kondo.

VERTIGINACEA

Abida secale and *A. frumentum* photos., general study, Borinka, Bratislava, Lošek, V. (25).

Agathylla biloba dabovici subsp. nov. p. 15 pl. 2 fig. 14; Mauer, N. Albania, Brandt, R. A.

Albinaria (*Interstriata*) *mauroumoustakisi* sp. nov. p. 14 pl. 1 fig. 9; Cyprus, Brandt, R. A.

Alopiia hildegardae soosi subsp. nov. p. 11 pl. 2 fig. 12; Polovrari, Roumanian, Brandt, R. A.

Balea perversa a land snail in the coastal zone of Denmark, Bondesen, P.

Boysia boysii previously known only from India, collected in Somalia, Africa, Verdcourt, B. (6).

Buliminus oxiatus fig., Ozbah-Kuh, Iran, Starmühlner, F.

Chondrina (s.s.) *deriosensis bidens* forma nov. p. 2 Alfara, Montsant & Cardó; *C. d. espanoli* forma nov. p. 23, El Toscar, Cornudella, Tivisa & Cardó; *C. d. nosae* forma nov. p. 23, La Cenia & Cornudella; *C. d. brandii* forma nov. p. 23, La Cenia & Cornudella; *C. d. cornudellae* forma nov. p. 23, Cornudella & Tivisa; *C. d. klemmi* forma nov. p. 23 fig. 2; Montreal, La Cenia, Cornudella, Tivisa & Rasquera; *C. d. triplicata* forma nov. p. 24 fig. 3; Montreal & Cornudella; *C. d. microstoma* subsp. nov. p. 24 fig. 4; Montsiá, San Carlos; *C. (Modicella) jumillensis toscari* forma nov. p. 26, El Toscar & El Ramé, Llaveria; *C. (M.) j. alfarae* forma nov. p. 26, El Toscar & Alfara, Tarragona, Spain, Altamira, C.

Clausilia dubia Havre region, France, Maury, A. (6).

†*Clausilia pumila sejuncta* photo., Quaternary, Czechoslovakia, Fejfar, Kneblová, Dohnal & Lošek; *C. pumila* photo., interglacial, Predmosti, Czechoslovakia, Lošek, V. (10).

Cochlicopa lubrica ecology of introduced European species in Waitomo Caves, Warren, P. (1); *C. nitens*. C.

lubrica, *C. lubricella exigua* and *C. l. columna*, shell, ecology, Poland, Berger, L.; *C. repentina* sp. nov. p. 287 pl. 1 figs. 1, 3, 4, 6; text-fig. 4; Mšené near Budyně on the Ohře, Bohemia also described and reproductive organs figured, *C. nitens*, *C. lubrica*, *C. lubricella*, Czechoslovakia, Hudec, V. (1).

†*Cochlicopa lubricella* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

Cochlodina orthostoma viridana new to Moldavia, Husanu, O.

†*Cochlodina laminata* photo., Quaternary, Czechoslovakia, Fejfar, Kneblová, Dohnal & Ložek.

†*Columella edentula* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

Delima (Delima) drenovoensis sp. nov. Drenovo, Macedonia p. 5 pl. 1 fig. 4, Brandt, R. A.

Ena obscura Havre region, France, Maury, A. (6).

Enidae, on E. African species, Verdcourt, B. (4).

Euphaedusa senkakuensis Kuroda sp. nov. p. 78 pl. 2 figs. 19–21; *E. stearnsi iriomotensis* subsp. nov. p. 79 pl. 2 figs. 22–24; Okinawa Is., Kuroda, T. (1).

Euxina (Euxina) rackae sp. nov. p. 16 pl. 2 fig. 15; NW Anatolia; *E. (Euxina) abanti* sp. nov. p. 17 pl. 2 fig. 16; Abantsee NW Anatolia, Brandt, R. A.

Gastrocopta armifera new to Wyoming, Beetle, D. E. (1); *G. armigerella daitojimana* Kuroda subsp. nov. p. 77, Okinawa Is., Kuroda, T. (1); *G. pilobryana* from Lake Vallecito near Durango, first record for Colorado, Karlin, E. J. (2).

†*Gastrocopta corticaria* first record from the loess of Vicksburg, Conkin, J. E. & B. M.; *G. moravica* photo., Pleistocene, Czechoslovakia, Ložek, V. (19); *G. theeli* fig. Quaternary, Czechoslovakia, Ložek, V. (5); *G. tihanyensis* sp. nov. p. 80 pl. 15 fig. 11; text-fig. 22; Lake Balaton, Tihany, Hungary, Miocene, Bartha, F.

Gylisotrachela hungerfordiana and *G. depressispira* limestone habitat, Malaya, Berry, A. J. (2); *G. salpinx* sp. nov. p. 38 pl. 10 fig. 4; Bukit Serdam near Raub, Pahang, Jutting, W. S. S. v. B. (3).

Helenopachnodus Germain 1932, objective synonym of *Nesobia* Ancey 1887, type *Bulimus helena* (Quoy & Gaimard) St. Helena, Baker, H. B. (9).

Herilla (Herilla) pangaionica sp. nov. p. 10, pl. 1 fig. 8; Mt. Pangaion, Greece, Brandt, R. A.

Hypselostoma terae limestone habitat, Malaya, Berry, A. J. (2).

Iphigenia lineolata a land snail in the coastal zone of Denmark, Bondesen, P.

†*Iphigenia denezstrata* interglacial mollusc from the Kutna Mts., Czechoslovakia, Ložek, V. (24); *I. ventricosa* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

Isabellaria riedeli sp. nov. p. 12 pl. 2 fig. 13; Euböa Okolice Prokopion, Brandt, R. A.

Laciniaria elata viridana and *L. plicata transsylvanica* new to Moldavia, Husanu, O.

†*Laciniaria gulo* interglacial from Hranovnica, Czechoslovakia, Ložek, V. (22); *L. stabilis* photos., interglacial, Předmosti, Czechoslovakia, Ložek, V. (10); *L. turgida* photo., Quaternary, Czechoslovakia, Fejfar, Kneblová, Dohnal & Ložek.

Lauria cylindracea Havre region, France, Maury, A. (6).

Mastus pupa ecology, Isle of Lipari, Sacchi, C. F. (3).

Montenegrina (Heteroptycha) fuchsi p. 2 pl. 1 fig. 1 sp. nov. Albania; *M. (Montenegrina) janinensis tomorosi* p. 3 pl. 1 fig. 2 subsp. nov. S. Albania; *M. (Montenegrina) kaicieri* p. 4 pl. 1 fig. 3 sp. nov. Macedonia, Brandt, R. A.

Nenia tridens anatomical figures, pl. 3, Baker, H. B. (4).

†*Orcula dolium* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

†*Pagodulina pagodula* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

Papillifera bidens ecology, Isle of Lipari, Sacchi, C. F. (3).

Parabosysia neglecta p. 36 pl. 8 fig. 2a; Gua Che Yatin, Pahang; *P. oreia* p. 37 pl. 9 fig. 3; Gunung Batu Kurau, Perak; spp. nov. Malaya, Jutting, W. S. S. v. B. (3).

Paramastus? goettingi sp. nov. Vilayet Bolu near Abant-See Turkey p. 177 figs., Forcart, L. (1).

Pupa Draparnaud 1801, proposed suppression and placement on Index of Rejected and Invalid Names, junior homonym of *Pupa* Röding 1798, Lemeche, H. (3); *P. kirki* range extension to Te Kaha, New Zealand, Warren, P. (2).

Pupadæa Fleming 1828 (type genus *Pupa* Draparnaud [1801]) proposed rejection as invalid because the name of the type genus is a junior homonym, Lemeche, H. (3).

Pupilla muscorum simplex Havre region, France, Maury, A. (6); *P. muscorum unidentata* new to Moldavia, Husanu, O.; *P. syngenes dextroversa* new to Wyoming, Beetle, D. E. (1).

†*Pupilla bigranata*, *P. muscorum* and *P. stierri* photos., Pleistocene, Banks near Piešťany, W. Czechoslovakia, Prošek & Ložek (2); *P. muscorum* and *P. bigranata* photos. interglacial, Předmosti, Czechoslovakia, Ložek, V. (10); *P. muscorum deneogyrata* subsp. nov. p. 328, pl. 1, figs. 2, 3; Zamarovce near Trenčín; *P. loessica* sp. nov. p. 329 pl. 1 figs. 4, 5; Předmosti near Přerov, Pleistocene, Czechoslovakia, Ložek, V. (7).

Pupoides hordaceus new from Wyoming, Beetle, D. E. (1).

Rhachidina braunsi (von Martens) account of variation, Verdcourt, B. (4).

Rachis (Rachis) ganaleensis new to the fauna of Somalia, Forcart, L. (2).

Rhachistia histrio (Pfeiffer) possibly the same as *Rhachidina braunsi* (v. Martens), Verdcourt, B. (4).

Serrulina (Serrulina) goettingi sp. nov. p. 18 pl. 1 fig. 17; Abantsee near Bolu, NW Anatolia, Brandt, R. A.

Siciliaria (Siciliaria) ferroz sp. nov. Trabia, N. Sicily p. 6 pl. 1 fig. 5; *S. (Siciliaria) nobilis episoma* subsp. nov. San Vito, N.W. Sicily p. 7 pl. 1 fig. 6; *S. (Siciliaria) leucophryne riberoi* subsp. nov. S. Sicily p. 8 pl. 1 fig. 7; *S. (Siciliaria) calcarae belliemi* subsp. nov. N.W. Sicily p. 9 pl. 2 fig. 10; *S. (Siciliaria) alcamoensis* sp. nov. N.W. Sicily p. 9 pl. 2 fig. 11, Brandt, R. A.; *S. gibbula* ecology, Isle of Lipari, Sacchi, C. F. (3).

Spelaeodiscus tatricus general study, reproductive system, figs., shell, Tatra Mts., Slovakia, Hudec, V. (5).

†*Strobilops (Strobilops) caucasica* sp. nov. p. 53, text-figs. 6–9; Kavkaz, R. Belaya, Miocene, Šteklav, A. A.; *S. tonsdalei* sp. nov. p. 43 pl. 6 figs. 1–2; text-figs. 1–2; Kansan terrace deposits in White River, 6–5 m. E. of Kalgary, Crosby Co., Texas; *S. l. cansasiana* subsp. nov. p. 46 pl. 6 figs. 3–4; text-fig. 3; Kansan deposits 6 miles N. of Meade, Meade Co., Kansas, Pleistocene High Plains, Ho & Leonard.

Strobilus (Strobilus) turritus basalis subsp. nov. p. 60, fig. 14a-c; Rapa, Mount Mangao; *S. (S.) opeas opeas* sp. nov. p. 61, text-figs. 15a-d, 16a-f; Rapa; *S. (S.) o. intermedius* subsp. nov. p. 63, text-fig. 15e; Mount Vairu, Rapa; *S. (S.) subtilis subtilis* sp. nov. p. 63 text-figs. 17a-c; 18a-c; Mount Mangao; *S. (S.) subtilis similis* subsp. nov. p. 65 text-figs. 17d-e; Mount Vairu; *S. (S.) acicularis acicularis* sp. nov. p. 66, text-figs. 19a, b; South of Ahueri Bay, Mount Tepiahu; *S. (S.) a. raphis* subsp. nov. p. 68 text-figs. 19c-g; Mount Ruatara, *S. (Tautautaua) perfragilis* subgen. & sp. nov. p. 68 text-figs. 20a, b; Mount Tautautu, *S. (Tanga) brevis brevis* sp. nov. & subgen. nov. p. 70 text-figs. 21a-d; Mount Perahu; *S. (T.) b. submilis* subsp. nov. p. 72 text-fig. 22a; Putaketake; *S. (T.) b. pumilis* subsp. nov. p. 72 text-figs. 22b, c; Mount Perahu, Rapa, Pacific Austral Is., Cooke & Kondo.

Tanga subgen. nov. p. 70 of *Strobilus* q.v. type species *S. brevis* sp. nov., Cooke & Kondo.

Tautautaua subgen. nov. p. 68 of *Strobilus* q.v., Cooke & Kondo.

†*Truncatellina clausalis* photo., Quaternary, Hradiš, Czechoslovakia, Lošek & Kneblová.

Vallonia excentrica and *V. costata* new to Wyoming, Beetle, D. E. (1); *V. pulchella* experimental snail host of *Lyperosomum monenteron*, Villella, J. B.

†*Vallonia tenuilabris* photo., Pleistocene, Baska near Piestany W. Czechoslovakia, Prošek & Lošek (2).

Vertigo gouldi arizonensis from the E. shore of Lake Vallecito near Durango, first record for Colorado, Karlin, E. J. (2); *V. heldi* Clessin, anatomy and variation, *V. pygmaea* Drap., figs., Ant. H.; *V. ovata* new to Wyoming, Beetle, D. E. (1); *V. pygmaea* new to Moldavia, Husanu, O.; *V. pygmaea* Havre region, France, Maury, A. (6); *V. shimochii* Kuroda and Amano (n. sp.) p. 77 pl. 2 fig. 14, Okinawa Is., Kuroda, T. (1); *V. teskeyae* sp. nov. p. 62 fig. 2 A-C; Lake Waccamaw N. Carolina; Lightwoodknot Creek, Alabama, Hubricht, L. (5).

†*Vertigo alpestris* Pleistocene, Tihany, Hungary, figs., Krolopp, E.; *V. pseudosubstriata* sp. nov. p. 327 pl., fig. 1; Pleistocene, Dolní Věstonice near Dyjál, Czechoslovakia, Lošek, V. (7); *V. pseudosubstriata* from the Pleistocene of Horká near Jizerou, Czechoslovakia, Lošek, V. (9); *V. substriata* and *V. parcedentata* photos., Quaternary, Czechoslovakia, Žabera, Lošek, Kneblová, Fejfar & Mazálek.

Zaptyx dasiojimana Kuroda sp. nov. p. 77, Okinawa Is.; *Z. (Tyrannozaptyx?) takara* Kuroda sp. nov. p. 78 pl. 2 figs. 16-18, Kuroda, T. (1).

ACHATINACEA

Achatina (Achatina) bandeirana arenaria subsp. nov. p. 139 fig. 1; Pointe Noire French Equatorial Africa; *A. (A.) b. mayumbensis* subsp. nov. p. 141 fig. 2; Mayumbe Mount Madiakoko, Kisala Ngoma, Congo Republic; *A. (A.) schweinfurthi simulans* subsp. nov. p. 142 fig. 3; Buta Province Orientale, Uele District Congo Republic; *A. (Lissachatina) calcicola* sp. nov. p. 144 fig. 4; Bas-Congo District, Terr. Inkisi, Sanda Congo Republic; *A. (Pintoa) lomamiensis* sp. nov. p. 147 fig. 5; Dist. Lomami, Kasai Province, Congo Republic, Crowley & Pain (1); *A. fulica* revision of taxonomy of subspecies; *A. f. rodatus* Dunker is the only subsp. from E. Africa, with 2 colour variants, *rodatus* s.s. and *lamillei*; Bequaert recognised *A. erlangeri* Möll. & Kobelt and *A. daroliensis* Kobelt as synonyms of *A. fulica rodatus*, Forcart, L. (2); *A. fulica* observations on gametes, fertilization and gonadal activities, Ghose, K. C. (1); *A. fulica* digestive enzymes and cellulolytic bacteria, Ghose, K. C. (2); *A. fulica* increasing complexity in the problem of the giant snail

on Hawaii, Mead, A. R. (1); *A. fulica* epizootic, Mead, A. R. (2); *A. fulica* economic status, control, dispersal and outlook on the problem, Mead, A. R. (3); *A. fulica* chemical, artificial and biological control, and natural enemies on Guam, Peterson jr., G. D.; *A. fulica hamillei* in the Kavirondo District, Kenya, Verdcourt, F. (5); *A. marginata* general study of interesting features, Seidl, F.

†*Aptyziella caucasica* sp. nov. (in coll.) p. 44 and list, Cretaceous, Azerbaidjan, Aliev, G. A. (1); *A. caucasica* sp. nov. p. 31 pl. 2 figs. 5a, b; 6a, b; Aghbulak Azerbaidjan, Minor Caucasus, Cenomanian Cretaceous, Aliev, G. A. (3).

Archachatina (Tholachatina) bequaerti sp. nov. p. 148 fig. 6; Nyika Plateau at 7,500 ft., Nyasaland; *A. (T. insularis)* sp. nov. p. 149 fig. 7; Bas-Congo, Matadi, Congo Republic; *A. (T.) altitudinaria* sp. nov. p. 151 fig. 8; Kivu Province, Fizi at 2800 m., Terr. Uvira Lubuka at 2400 m., Congo Republic, Crowley & Pain (1); *A. (Calachatina) marginata* structure and function of the nervous system, Nisbet, R. H. (1); *A. (Calachatina) marginata* neurophysiology, Nisbet, R. H. (2).

Beckianum gen. nov. or subgen. of *Leptinaria* Beck 1837 type sp. *Synopeas beckianum* (Pfeiffer), Zilch 1959 stated *Synopeas* Jousseaume 1839, is a homonym of Foerster 1856; p. 84, Baker, H. B. (6).

Burtoa nilotica benoitii p. 22 pl. 2 fig. 8; Uganda, Belgian Congo, Ruanda, Urundi; *B. n. congoleensis* p. 26 pl. 2 fig. 9; Belgian Congo; subsp. nov.; *B. n. schweinfurthi* synonym of *B. n. nilotica*; *B. n. emini* synonym of *B. n. giraudi*; *B. n. subasmia*, *B. n. jouberti*, *B. n. reymondii*, *B. n. dupuisi*, *B. n. arnoldi* and *B. n. minor* monographic revision of the genus, in Africa, Crowley & Pain (2); *B. nilotica* in Ethiopia, Crowley & Pain (5).

†*Burtoa nilotica verdcourtii* subsp. nov. p. 12 pl. 1, figs. 1-2; Miocene (Burdigalian) Kavirondo district, Kenya, Crowley & Pain (2).

Cacilioides acicula ecology, Isle of Lipari, Sacchi, C. F. (3).

†*Dorgalia* subgen. nov. of *Phanerophytis* p. 186, subgenotype *D. gymnocheila* p. 186 text-figs. 1a, b; Tithonian, Jurassic; Gola de Gorropu (Costa Mammaluccas) Sardinia, Rabbi, E.

Ferussacia vescoi ecology, Isle of Lipari, Sacchi, C. F. (3).

†*Gortania* subgen. nov. of *Nerinea* p. 190, subgenotype *G. bathonica* p. 190, text-fig. 1c; Genna Solole, Sardinia, Bathonian, Jurassic, Rabbi, E.

Limicolariopsis D'Ailly 1910, characters shell and animal, key; *L. cylindricus* p. 16 pl. 1 figs. 6, 7; Malka Murri, Kenya Northern Province; *L. verdcourtii* p. 26 pl. 2 fig. 9; text-fig; Naro Maru River, 9,700 ft., Mount Kenya; *L. laevis* p. 28, pl. 3 figs. 1, 2; Thiba River, Mount Kenya; *L. elgonensis* p. 29, pl. 3 fig. 3; text fig. Endebesa, Mt. Elgon, Kenya; spp. nov. also described *L. donaldsoni*, *L. obtusa*, *L. nyiroensis*, *L. percuria*, *L. dohertyi*, *L. keniana*, *L. inepta*, *L. perobtus*, *L. kivuensis*, *L. ruwenzoriensis*, *L. sjostedti* and *L. wagneri* figs., Crowley & Pain (3).

†*Neophtysis astrachanica* pl. 1 figs. 1a-4b; Cretaceous, Don Basin Ukraine and Astrakhan province, Russia, Pchelintsev, V. F. (1).

†*Nerinea (Gortania)* subgen. nov. q.v., Rabbi, E.; *N. coquandi* Barremian Tymphé and *N. requiens* Turonian Gavrovo; Greece, Aubouin, J.; *N. pseudogigantea* sp. nov. (in coll.) p. 42 and list, Cretaceous Azerbaidjan, Aliev, G. A. (1); *N. pseudogigantea* sp. nov. p. 26 pl. 3 figs. 1, 2a, b; Kubatinsk region Azerbaidjan, Barremian Cretaceous,

Aliev, G. A. (3); *N. subsculpta* Pchelintzev (in litt.) p. 6 pl. 1 figs. 6a, b; N. Armenia, Rorak deposits, Jurassic, *N. armenica* sp. nov. p. 8 pl. 1 figs. 9a, b; pl. 2, figs. 1-3; Armenia, Kryachkova, Z. V.

†*Nerinella gurovi* sp. nov. p. 129 pl. 1 figs. 1a, b, c; 2; Jurassic, Donetz basin, USSR, Lankin, I. Y.; *N. pseudolongissima* sp. nov. (in coll.) p. 45, *N. azerbaijanensis* sp. nov. (in coll.) p. 44 and list, Cretaceous Azerbaidjan, Aliev, G. A. (1); *N. pseudolongissima* p. 28, pl. 1 figs. 2a, b; 3; Ghadrutek region, *N. agdjakendensis* p. 29 pl. 1 figs. 4, 5; Aghdzhakend; *N. azerbaijanensis* p. 30 pl. 2 figs. 2a, b; 3, 4; Aghbulak; spp. nov. Azerbaidjan, Cenomanian Cretaceous, Aliev, G. A. (3).

†*Phaneroptyxis* (*Dorgalia*) subgen. nov. q.v., Rabbi, E.

†*Plesiioptyxis elvorenensis* "sp. nov." p. 58 [in list] Koehkar-Kyurak watershed region Minor Caucasus, Cretaceous, Aliev, G. A. (1); *P. pelincevi* sp. nov. (in coll.) p. 44 and list, Cretaceous Azerbaidjan, Aliev, G. A. (1).

†*Plesiioptyxis airumensis* sp. nov. (in coll.) p. 44; *P. kasakhensis* sp. nov. (in coll.) p. 44; *P. djogassensis* var. nov. (in coll.) p. 44 and list, Cretaceous, Azerbaidjan, Aliev, G. A. (1); *P. conica* sp. nov. p. 41, pl. 1, figs. 1-4; Koehkar-Terterch watershed, Minor Caucasus, Cretaceous, Aliev, G. A. (2).

Rumina decollata, anatomy, figs., life cycle, behaviour and ecology, Batts, J. H.; *R. decollata* occurrence of head warts, Arizona figs., Miles, C. D.; *R. decollata* ecology, Isle of Lipari, Sacchi, C. F. (3).

ZONITACEA

Aegopinella nitens reproductive anatomy, fig., Flasar, I. (1).

†*Aegopinella nitidula*? photo., interglacial, Předměstí Czechoslovakia, Ložek, V. (10); *A. reasmanni* and *A. minor* photos., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

†*Aegopis verticillus* photo., interglacial, Předměstí Czechoslovakia, Ložek, V. (10).

Agriolimax agrestis infected by a facultative parasite *Colpoda steini*, Burch, J. B. (2); *A. agrestis* in the Isle of Harris, Outer Hebrides, Heppell, D. (1); *A. agrestis* Havre region, France, Maury, A. (6).

Albidiscus granum ecology, Waitomo Caves, Warren, P. (1).

Anadenulus cockerelli new record Kern County, S. of sawmill at head of Tejon Canyon, Tehachapi Mts., 5,300 ft., S. California, Gregg, W. O.

Antonella gen. nov. p. 117, "Pityinae" genotype *A. trochlearis* Pfeiffer; *A. t. radialis* subsp. nov. p. 121, text-figs. 54a, b; Kopenena Valley; *A. t. fusiformis* p. 122, text-figs. 54c, d; Mount Tevaitahu; *A. t. nesioica* p. 122 text-figs. 54e, f; Karapo Rahi Islet subsp. nov.; *A. pfeifferi* sp. nov. p. 122, text-figs. 55a-g; Maitau; *A. tenuis* sp. nov. p. 124 text-figs. 55a-e; Area; Rapa, Austral Is., Cooke & Kondo.

Antonellini tribe nov. p. 116 "Pityinae" for *Antonella* gen. nov., q.v.; and *Perahua* gen. nov. q.v., Cooke & Kondo.

Apophys gen. nov. p. 92 "Pityinae" [nom. nud. Endodontinae] genotype *A. andersoni* sp. nov. p. 92, text-figs. 39a-d; Mount Mangaoa, Rapa, Austral Is., Cooke & Kondo.

Ariolimax columbianus stramineus new record 2,700 ft. Ventura County, Santa Paula Canyon, S. California, Gregg, W. O.

Arion ater rufus postembryonic changes in the reproductive system, Lásia, O.; *A. circumscriptus* genitalia figs., ecology, Poland, Berger, L.; *A. circumscriptus* attempted infection with *Acanthamoeba*, Getz, L. L.; *A. circumscriptus* and *A. fasciatus* comparison of genitalia, figs., Hudec, V. (2); *A. circumscriptus* seasonal succession with *Deroceras*, numbers of *A. hortensis* not varying with the season, Roy, A.; *A. rufus*, list of parasites, Dollfus, R. P.; *A. rufus* histology of the cephalic gland during development and maturation, its possible endocrine activity associated with growth regulation, Mol, J. J. van; *A. subfuscus* and *A. ater* relation between neurosecretion and cell differentiation in the ovotestis, Pelluet & Lane; *A. (Kobeltia) tenellus* Müller from the forest of Beaumont-le-Roger, general note, Maury, A. (9).

Binneya notabilis new record Santa Barbara Island, El Primero Canyon, S. California, Gregg, W. O.

Boettgerilla sp. cf. *B. vermiformis* figs., genitalia; general study associated molluscs, found in Ostrava, Czechoslovakia, Hudec & Mácha; *B. compressa*, *B. pallens* and *B. vermiformis* anatomical study, Wiktor, A.

Celticola gen. nov. p. 131 [Endodontinae] "Pityinae" genotype *C. pilebryi* sp. nov. p. 132, text-figs. 60a-c; 61a-f; Area; *C. (C.) pilebryi proxima* p. 135, text-figs. 62a, b; East Maitau; *C. (C.) p. incerta* p. 136, text-figs. 62c, d; Mount Perahu; *C. (C.) p. latior* p. 136, text-figs. 63a-d; Mount Tepiahu; subsp. nov.; *C. (Meryticola) arborea arborea* subgen. & sp. nov. p. 138, text-figs. 64a-d; Mount Tepiahu; *C. (M.) a. aorocula* subsp. nov. p. 139, text-figs. 64e, f; Mount Vairu; *C. (Nesonoica) conoides* subgen. & sp. nov. p. 140, text-figs. 65a-d; Mt. Tautautu, Rapa; *C. (N.) anatonuensis* sp. nov. p. 141, text-figs. 66a-e; Raivavae, Tubuai, Austral Is., Cooke & Kondo.

Charopa coma and *C. chrysauga* ecology Waitomo Caves, Warren, P. (1).

Daudebardia brevipes reproductive anatomy, figs., Flasar, I. (1).

†*Daudebardia rufa* photo., interglacial, Předměstí Czechoslovakia, Ložek, V. (10).

Deroceras agreste and *D. reticulatum* genitalia figs., ecology, Poland, Berger, L.; *D. reticulatum* effects of temperature and light on locomotion, Karlin, E. J. (3); *D. reticulatum* and *D. laeve* courtship, mating and egg-laying behaviour, Karlin & Bacon; *D. reticulatum* seasonal fluctuation in population numbers apparent alternation with *Arion*, Roy, A.; *D. schleschi* p. 23 figs. 3-5; *D. forcarti* p. 21 fig. 1, 2 spp. nov. Bucarest Grossu & Lupu (1).

Discus patulus ecology and habitat, Oklahoma new record and westernmost point recorded for this species, Branson, B. A. (1); *D. rotundatus* histology of the foot, study on locomotion, Elmes, M. W.

†*Discus perspectivus* photo., Quaternary, Hradiště, Czechoslovakia, Ložek & Kneblová.

Fectola tapirina ecology, Waitomo Caves, Warren, P. (1).

Flammulina perdita ecology, Waitomo Caves, Warren, P. (1).

Goniodyscus flavidus ecology, Isle of Lipari, Sacchi, C. F. (3); *G. rotundatus* parasitized by sporocysts, Dollfus, R. P.; *G. ruderatus* new to Moldavia, Husanu, O.

†*Hawaiiia minuscula* first record from the Loes of Vicksburg, Conkin, J. E. & B. M.

Helicodiscus parallelus cave dwelling, Warren and DeKalb Co., Tennessee, Barr, T. C.; *H. singleyanus*

inermis H. B. Baker, occurrence in France, Altena, C. O. v. R. (3).

Hesperarion niger new record Kern Co., W. of Poso Creek, N. of Glenville 2,200 ft. *H. hemphilli* new record Santa Barbara Co., Salsipuedes Creek, S. California, Gregg, W. O.

Hyalina (*Retinella*) *osari* Kimakowicz 1883 (type genus of *Schistophallus* A. J. Wagner 1914) anatomy, radula, distribution and systematics, figs., Riedel, A.

Jucularia confusa effect of metaldehyde poison, Ōgushi, K.

Laoma lemonias, *L. marina*, *L. poecilosticta* and *L. p. conicula* ecology, Waitomo Caves, Warren, P. (1).

Lehmanna fulva Havre region, France, Maury, A. (6); *L. poirieri* new record from Santa Cruz Island, Stanton Ranch headquarters S. California, Gregg, W. O.

Limacidae courtship, mating and egg-laying behaviour, Karlin & Bacon.

Limax flavus effect of metaldehyde poison, Ōgushi, K.; *L. flavus* and *L. maximus* temperature and body colour, Reichmuth & Frömming; *L. marginatus* new to Oklahoma, ecology and distribution, Branson, B. A. (2); *L. maximus* parasitized by Acari, Dollfus, R. P.; *L. maximus* automatic movements produced in isolated organs by impulses from the intramural nerve plexi, Minker & Koltai; *L. poirieri* behaviour studied as a taxonomic aid, Karlin, E. J. (2); *L. poirieri* effects of temperature and light on locomotion, Karlin, E. J. (3); *L. poirieri*, *L. maximus* and *L. flavus* courtship, mating and egg-laying behaviour, Karlin & Bacon; *L. tenellus* radula variation, figs., Flasar, I. (2); *L. (Lehmanna) valentianus* variation, nomenclature, distribution and taxonomy, Walden, H. W.

Lytopelte (*Lytopelte*) *moldavica* sp. nov. Carpathians p. 28 text-figs. 1, 2, Grossu & Lupu (2).

Mangaoa gen. nov. p. 78 "Pitysinæ" genotype *M. perissa* sp. nov. p. 78, text-figs. 27a-c; Mount Perahu Rapa, Pacific, Austral Is., Cooke & Kondo.

Meryticola subgen. nov. p. 137 of *Celticola* [q.v.], Cooke & Kondo.

Mesodon thyroideus bucculenta Marshall Co., *M. t. thyroideus* Latimer Co., new records for Oklahoma, Branson, B. A. (1).

Milax from Roumania, revision of spp.; *M. gracilis gracilis* Leydig 1878, Sibiu; *M. g. valachicus* subsp. nov. p. 133 text-figs. 3-5; Bucharest; *M. rusticus rusticus* Millet 1843 (= *M. marginatus* Drap.) Transylvania; *M. r. longipennis* subsp. nov. p. 137 text-figs. 6, 7; Babadag forest; *M. r. balcanicus* forma nov. p. 139 text-figs. 8, 9; Comorova, SE Dobrogea; *M. cristatus nanus* subsp. nov. p. 141, text-figs. 10, 11; N. Dobrogea, Roumania, Grossu & Lupu (3); *M. gagates* courtship, mating and egg-laying behaviour, Karlin & Bacon; *M. soverbiti* reproductive system, fig., Schouten, A. R.

Mitiperua gen. nov. p. 79 "Pitysinæ" genotype *M. simplex simplex* sp. nov. p. 80 text-figs. 28a-c; 29a-c; Mount Perahu; *M. simplex subcostata* subsp. nov. p. 81, text-figs. 30a, b; Mount Mangaoa; *M. s. convezior* subsp. nov. p. 82 text-fig. 30c; Mount Perahu, Rapa Pacific Austral Is., Cooke & Kondo.

Mocella cogitata ecology, Waitomo Caves, Warren, P. (1).

Neophenacohelix subgen. nov. p. 164 of *Phenacohelix* q.v. subgenotype *P. (N.) givens* sp. nov. New Zealand Cumber, E. A.

Nesonicoia subgen. nov. p. 140 of *Celticola* gen. nov. [q.v.], Cooke & Kondo.

Orychilus cellarius ecology, Isle of Lipari, Sacchi, C. F. (3); *O. cellarius* ecological study of differences brought on by environment due to habitats preferred when caves are available for occupation, Tereals, E. R. (1); *O. cellarius* chitinae concentration in stomach of cavernicolous and non cavernicolous forms, Tereals & Jeuniaux; *O. cellarius* introduced European species, Waitomo Caves, Warren, P. (1); *O. draparnaldi* and *O. cellarius* compatibility, Schmidt, H. A.; *O. draparnaldi*, *O. cellarius* and *O. villae* from Neratovice, Czechoslovakia, figs., Hudec, V. (3); *O. (Riedelii)* subgen. nov. q.v.; also *O. inopinatus*, *O. (O.) cellarius*, *O. (Molina)* glaber and *O. (R.) depressus* Czechoslovakia, Hudec, V. (4); *O. glaber* new to Moldavia, Husanu, O.; *O. hydatinus* in Greece, Jaekel & Plate; *O. (Schistophallus) orientalis* observations on its ciliate parasite *Thigmocoma acuminata*, Kazubski, S. L.

Pallifera hemphilli marmorea new to Oklahoma, ecology Muskogee Co., distribution, Branson, B. A. (2); *P. (Pancalyptus) megaphallica* sp. nov. p. 104 fig. B Pocomoke River W.S.W edge of Snow Hill, Worcester Co., Maryland, Grimm, F. W. (1).

Paralaoma tallochroida ecology, Waitomo Caves, Warren, P. (1).

Perahua gen. nov. p. 125, "Pitysinæ" genotype *Perahua grandis* sp. nov. p. 126 text-figs. 57a-f; 58a-h; *P. bakeri* sp. nov. p. 129 text-figs. 59a-d; Mount Perahu, Rapa, Austral Is., Cooke & Kondo.

Phenacohelix Suter 1892, revision of the genus; *P. (Phenacohelix) ponsonbyi*; *P. (Neophenacohelix) givens* subgen. (p. 164) et sp. (p. 169) nov. figs. 4-6; Mount Wellington lava fields; *P. (P.) pilula*; *P. (N.) tholoides* comb. nov. p. 181 figs. 7-9; Cape Te Reinga, Whangaroa, Spirit's Bay, *P. (N.) perpleza*; *P. (N.) stokesi* and *P. (P.) subantarctica* ecology, variation and distribution, New Zealand, Cumber, E. A.; *P. ponsonbyi* ecology, Waitomo Caves, Warren, P. (1).

Philomycus (*Pallifera*) *arizonensis* Pils. rediscovery, Miles & Mead; *P. carolinianus* experiments on movement and effects of temperature and light, Karlin, E. J. (3).

Phrizgnathus erigone, *P. conella*, *P. mariae* and *P. ariel*, ecology, Waitomo Caves, Warren, P. (1).

Pilebryna tridens range extended from Palo Pinto Co., Texas to San Patricio, Branson, B. A. (3).

"*Pity*" *scalaris* sp. nov. p. 101 text-fig. 44a; Mount Tautautu Rapa; *P. alpestris* sp. nov. p. 103 text-figs. 45a, b; Mount Perahu, Rapa, Austral Is., Cooke & Kondo.

"Pitysinæ" subfam. nov. p. 51 of Achatinellidae to include the tribes Pitysini, Antonellini, Tubuaiini and Tubuaiia, Cooke & Kondo.

Pitysini tribe nov. p. 53 type genus "*Pity*" of "*Pitysinæ*" to include the genera *Strobilus*, *Pukunia*, *Mangaoa*, *Mitiperua*, *Taitaa*, *Apoptys*, *Pity* and *Lamellovum*, Cooke & Kondo.

Polygyra gracilis p. 26 pl. 4 fig. N, O, Edwards Plateau, Texas; *P. lithica* p. 28 pl. 4 figs. L, M, upland oak-hickory woods, Stone Co., Arkansas spp. nov. U.S.A., Hubricht, L. (4); *P. (Erymodon) herlei* sp. nov. p. 21 figs. 12a-c; Tenecatita Bay, Jalisco, Mexico, Haas, F.

†*Praticolella berlandieriana* first record from the loess of Vicksburg, Conkin, J. E. & B. M.

Psychodon pseudoleioda collected from Waitomo Caves, New Zealand, Warren, P. (1).

Pukunia gen. nov. p. 73 "Pitysinæ" genotype *Pukunia acuta* p. 73 text-figs. 23a-e; 24a-c; Mount Pera-hu; *P. margaritae* p. 76 text-figs. 25a, b; Mount Moron-gota; *P. pellucida* p. 76 text-figs. 26a-e; Ahurei; Rapa spp. nov. Pacific, Austral Is., Cooke & Kondo.

Retinella c. cryptomphala blind cave snail, Smith Co., Tennessee, Barr, T. C.

Riedelius subgen. nov. p. 110 of *Oxychilus*, subgenotype *Hyalina inopinata* Ullén 1887 pl. 8 figs. 1-3, text-figs. 3 and 9, Czechoslovakia, Hudec, V. (4).

Schistophallus (Cellariopsis) deubeli A. J. Wagner 1915 synonym *Hyalina (Euhyalina) cellaria orientalis* Clessin 1887, Riedel, A.; *S. orientalis* from Kopeč near Neratovice, figs., Czechoslovakia, Hudec, V. (3).

†*Semilimaz kotulae* Pleistocene, Tihany, Hungary, figs., Kropopp, E.

Serpho kivi from Waitomo Caves, New Zealand, Warren, P. (1).

Stenotrema calvescens sp. nov. p. 28 pl. 4, figs. P, Q. Cumberland Mtn., 1 mile east of Monteagle, Marion Co., Tennessee, Hubricht, L. (4).

Striatura meridionalis in Graham Creek campground, E. shore of Lake Vallecito, Durango, new record for Colorado, Kariin, E. J. (2).

Subflecta caputspinulae ecology, Waitomo Caves, Warren, P. (1).

Suteria ide ecology, Waitomo Caves, Warren, P. (1).

Taireva section nov. of *Taitaa* gen. nov. q.v., Cooke & Kondo.

Taitaa section nov. of *Taitaa* gen. nov. q.v., Cooke & Kondo.

Taitaa gen. nov. p. 82 "Pitysinæ"; nov. section *Taitaa* type species *T. dacryma* sp. nov. p. 84; text-figs. 31a-c; 32a-h; Tubuai; *T. (T.) arawana* sp. nov. p. 86 text-figs. 33a, b; Arava village, Tubuai; section nov. *Taireva* type species *Taitaa striatula* sp. nov. p. 87, text-figs. 34a-d; 35a-e; Rurutu; *Taitaa (Taireva) sinmermani* sp. nov. p. 89, text-figs. 36a-d; Tubuai; *Taraia* section nov. type species *Taitaa neanica* sp. nov. p. 90 text-figs. 37a-c; Raivavae; *Taitaa (Taraia) tereb-riformis* sp. nov. p. 91 text-figs. 38a-d; Ahuivai Point, Raivavae; Austral Islands, Cooke & Kondo.

Taraia section nov. of *Taitaa* gen. nov. q.v., Cooke & Kondo.

Thalassohelix ziczac ecology Waitomo Caves, Warren, P. (1).

Therasiella celinde ecology, Waitomo Caves, Warren, P. (1).

Tubuaia gen. nov. p. 143, "Pitysinæ" genotype *T. perpleza*; *T. gouldi* nanmores form. nov. p. 153, text-figs. 71a-f; Aukena Islet, Mangareva Is., *T. cremno-bates* p. 153 text-figs. 72a-f; Teutu; *T. cylindrata* cylin-drata p. 155 text-figs. 73a-c; Aree; spp. nov. *T. c. philo-li-chen* subsp. nov. p. 156, text-figs. 73d, e; Tapui Islet; *T. voyana rapaensis* subsp. nov. p. 159 text-figs. 74a-c; Tapui Islet; *T. inconstans* sp. nov. p. 160 text-figs. 75a-f; Aree, Rapa, Austral Is., Cooke & Kondo.

Tubuaiini tribe nov. p. 131 "Pitysinæ" type genus *Tubuaia* also includes *Celticola* q.v., Cooke & Kondo.

Ventridens ligens infected experimentally with dirocoelid sporocysts and cercariae of *Lyperosomum*, Villella, J. B.

Vitrea contracta botterii in Greece, Jaecel & Plate.

†*Vitrea crystallina* photos., Quaternary, Czechoslovakia, Zábava, Ložek, Knebllová, Fejfar & Mazálek; *V. subrimata* and *V. contracta* photos., Quaternary, Hradiště, Czechoslovakia, Ložek & Knebllová.

Vitrizonites uidermis Pilsbry, on its status, Hubricht, L. (3).

Yunquea monteplatensis p. 166 (*Suavitas* m. Pilsbry) a new subfamily is proposed—Yunqueinae, Baker, H. B. (3).

Yunqueinae subfam. nov. in Sagdidae p. 166 for *Yunquea monteplatensis* (Pilsbry), Baker, H. B. (3).

Zonitoides nitidus parasitized by holotrichs, Dollfus, R. P.; *Z. nitidus* infected with dirocoelid sporocysts and cercariae of *Lyperosomum*, Villella, J. B.

ARIOPHANTACEA

Ariophanta sp. effect of ribonuclease on shell regenera-tion, Nair & Muthé.

Bekkochlamys serenus (Pilsbry and Hirase) fig. 4, Habe, T. (4).

Bloyetia Bgt. cogenetic with *Trochananina* Mousson, Verdcourt, B. (3).

Macrochlamys indica observations on gametes, fer-tilization and gonadal activities, Ghose, K. C. (1); *M. lindbergi* n. sp. (Likharev, in communication) eastern Afghanistan, a true cavernicole, Lindberg, K.

†*Macrochlamys regularior* Miocene, Roquebrune, Lawor-sky, G.

Montanobloyetia subgen. nov. p. 128 of *Trochananina* subgenotype *Zingis keniana* Preston, text-fig. 6; Mt. Kenya, Verdcourt, B. (3).

Olesiopsis kavaguchii sp. nov. Forest of about 900-1000 m. above sea level at Mt. Komagadake bordering Akita and Iwate Pref. northern Honshu, Japan pp. 157, 162 text-figs. 1, 2, Habe, T. (4).

Plicatananina subgen. nov. p. 126 of *Trochananina* subgenotype *Ledoulzia crassiplicata* Preston; text-fig. 16; Chania Gorge, Thika, Kenya, Verdcourt, B. (3).

Pseudohelicarion masakii Kuroda sp. nov. p. 79 pl. 1 fig. 4; pl. 2 fig. 2; Okinawa Is., Kuroda, T. (1)

Sitala H. Adams shown to include *Trochananina leroyi* Bgt., Verdcourt, B. (3).

Sjöstedtina subgen. nov. p. 124 of *Trochananina* subgenotype *T. membranacea* D'Ailly text-figs. 7, 15; Kilimanjaro, Sjöstedt, Tanganyika, Verdcourt, B. (3).

Trichotoxon nyambenense nyambenense sp. et subsp. nov. p. 10 text-figs. 22, 23; Nyambeni Hills, Kirima, Kenya, *T. nyambenense violaceum* subsp. nov. p. 12 text-fig. 24 NE. slopes of Mt. Kenya, Marimba Forest, Kenya; *T. bambuseti* sp. nov. p. 12 text-figs. 18, 19; W. side of Aberdare, North Kinangop-Nyeri road, Kenya; *T. (Polytoxon) copleyi* sp. nov. subsp. *copleyi* p. 19 text-figs. 25, 26, 27, 28; Nairobi, Kenya; *T. (Polytoxon) copleyi maranguense* subsp. nov. p. 22 text-figs. 29-32; Kilimanjaro, Marangu, Tanganyika; *T. (P.) c. reticulatum* subsp. nov. p. 23, text-fig. 33; Ruiru, 15 miles N. of Nairobi, Kenya; *T. (P.) c. kulalense* subsp. nov. p. 24 text-figs. 34, 35; Mt. Kulal, Kenya; *T. (P.) c. moloense* subsp. nov. p. 27 text-fig. 36, Molo, Kenya; *T. (P.) kili-manjaricum* sp. nov. text-fig. 37, SE. slopes of Kiliman-jaro, Tanganyika; *T. simrothi* Verdcourt nom. nov. for *Spirotoxon neumanni* Simroth 1904 p. 30; *T. (Atricho-toxon) usambarense* sp. nov. p. 31 text-figs. 39, 40; East Usambaras, Amani, Tanganyika, Verdcourt & Polhill; *T. thikensis* detailed anatomical and histological study, Urban, S.

Trochonanina (*Plicatonanina*); *T.* (*Sjöstedina*); and *T.* (*Montanobloyetia*) subgen. nov. q.v., Verdcourt, B. (3).

Yamatochlamys (*Ceratochlamys*) *ceratodes* (Gude) fig. 5, Habe, T. (4).

Zingis brunneofasciata sp. nov. p. 120 pl. 1 fig. 1; Gorongosa Mt., 4,000 ft., Portuguese East Africa; also text-figs. 2-3 of genitalia and pallial organs, Verdcourt, B. (3).

ACAFAVEA

Acavus phoenix structure of the nervous system, figs., Wignarajah, S.

Strophocheilus (*Megalobulimus*) *hector* pl. 1 fig. 1; Brazil; *S. (M.) cocapensis* pl. 1 fig. 2; Bolivia; *S. (M.) capillaceus* pl. 1 fig. 3; *S. (M.) maximus indigenus* pl. 1 fig. 4; pl. 2 figs. 5, 6; Peru, described and figured, Crowley & Pain (4); *S. ovatus* (?), study of sex chromatin, Chagas, Procopio-Valle & Barth.

BULIMULACEA

Bulimulus (*Rhabdotus*) *fonsecanus* sp. nov. p. 20 figs. 11a, b; Gulf of Fonseca, San Salvador or Nicaragua, Haas, F.

Cerion (*Maynardia*) *klineae* sp. nov. p. 249 pl. 43 fig. 1; Bonavista Cay, Ragged Islands; *C. (Strophiope)* *utowana abbotti* subsp. nov. p. 251 pl. 43 fig. 4; Long Island, South Caicos, Caicos Islands; *C. (Multostrophia)* *lewisi* sp. nov. p. 255 pl. 43 fig. 5; Pine Cay, Caicos Islands, Bahamas, Glench, W. J. (2); *C. uva* anatomical figures, pl. 3, Baker, H. B. (4).

Cyclodontina (*Spixia*) *corderoi* sp. nov. p. 2 pls. 1, 2; Pozo Hondo, Dept. of Tacuarembó, Uruguay, Klappenbach, M. A. (1).

Liguus fasciatus solisocatus colour forms from the Everglades and habits, Solem, A. (3).

Orthalicus undatus jamaicensis (Pilsbry), occurrence in the Cayman Islands, Rehder, H. A. (2).

HELICACEA

Aegista caerulea Kuroda & Habe sp. nov. p. 81 pl. 1 figs. 1-3, Okinawa Islands, Kuroda, T. (1).

Amphidromus an account and list of subgenera and species, ranges, nomenclature and notes; *A. perversus butoti* subsp. nov. p. 535 figs. 15 B, C, 16 D, Bajutan, Kangean Island; *A. inversus koberbergi* subsp. nov. p. 561 fig. 24, Menado, North Celebes; *A. maculiferus bartschi* nom. nov. p. 603 a form of *A. m. buluanensis*, Cabacan, Cotabato, Mindanao, Philippine Is., alphabetical list of species, Laidlaw & Solem.

Arianta arbustorum body colour and temperature, Reichmuth & Frömming.

Bradybaena similis (♀) sex chromatin, Chagas, Procopio-Valle & Barth.

Buliminopsis takarai Kuroda sp. nov. p. 81 pl. 1 fig. 25, Okinawa Is., Kuroda, T. (1).

†*Campylaea čapeki* pl. fig. 2, Stránská skála at Brno, Pleistocene, Petrbok, J. (1).

Cantareus apertus ecology, Isle of Lipari, Sacchi, C. F. (3).

Caracollina lenticula ecology, Isle of Lipari, Sacchi, C. F. (3).

Caracolus marginella mayaguezi p. 64 subsp. nov. from Swift Collection labelled "Mayaguez" = *Pleurodonte bornii* (Pfeiffer) Pilsbry in part, Baker, H. B. (5).

Cepaea hortensis and *C. nemoralis* colour variation, ecology and general notes, Havre region, Maury, A. (3); *C. hortensis* polymorphism, calculations of population size, Robinson, J. V. B.; *C. hortensis arenicola*, *C. hortensis* & *C. nemoralis* general notes, Havre region, France, Maury, A. (4); *C. nemoralis* meiosis studied by microcinematography, Bajer, Hansen-Møller, Møller & Mølle-Bajer; *C. nemoralis* and *C. hortensis* distribution, Cliff of Ristinge, Denmark, Bondesen, P.; *C. nemoralis* visual and physiological selection, Cain & Sheppard; *C. nemoralis* and *C. hortensis* parasites listed, Dollfus, R. P.; *C. nemoralis* polymorphism of natural populations, Lamotte, M.; *C. nemoralis* variations in colour, eaten by *Turdus pilaris*, Matske, M. (1); *C. nemoralis* body colour and temperature, Reichmuth & Frömming; *C. nemoralis* selective predation in Cambridgeshire, Sacchi, C. F. (4).

Cochlicella ventricosa biological study of the Mediterranean form in Belgium, also study of *C. acuta* and *C. conoides*, Boulangé, J.

Cryptomphalus aspersus ecology, Isle of Lipari, Sacchi, C. F. (3).

Cylindrus obtusus (Drap.), Klemm, W.

Eobania vermiculata conditions necessary for the production of the epiphragm, Bonavita, D.; *E. vermiculata* ecology, Isle of Lipari, Sacchi, C. F. (3).

Eumphalia strigella in the coastal zone of Denmark, Bondesen, P.

Euparypha pisana nitrogen content in snails from different habitats, Gaudiosi & Sacchi; *E. pisana* ecological significance of shell nitrogen content, analysis of phenotypes in a single population, Sacchi & Gaudiosi.

†*Fruticicola unidentata* photos., Quaternary, Czechoslovakia, Fejfar, Kneblův, Dohnal & Lošek.

Helicella (*Xeromagna*) *barrattei*, El-Kef and Souk-el-Arba; *H. (X.) khangetina*, Haidra; *H. (X.) k. subconica* p. 165 pl. 1 fig. 5; *H. (X.) k. depressa* p. 165 vars. nov. Haidra; *H. (Xerovera)* *mayeti* Haidra; *H. leucophora*, *H. l. major* var. nov. p. 168 pl. 1 figs. 7, 8, Haidra; *H. (Cernuella)* *galeomma* Tozer and Nefta; *H. (Xeromoea)* *ammedihana* Haidra; *H. (Xeromunda)* *psammathaea* Zarzis; *H. (X.) p. major* var. nov. p. 172 pl. 1 fig. 18, Hount-Souk; *H. (Eremnella)* *latatei*, Sidi-Salem-Bouguera; *H. (Trochoidea)* *zitoumica* Zitoun; *H. (T.) madana*, El-Kef, Foum-Bouibet; Tunisia, Llabador, F. (1); *H. caudicanus* with spider eggs laid just inside the shell, Chopard, L.; *H. (Cernuella)* *subprofunda*, *H. (Trochoidea)* *pyramidata*, *H. (Xeromica)* *apicina* and *H. (Xerotracha)* *conspurcata*, ecology, Isle of Lipari, Sacchi, C. F. (3).

†*Helicella* sp. (aff. *H. unifasciata*) and *H. solesiana* photos., Quaternary Czechoslovakia, Fejfar, Kneblův, Dohnal & Lošek; *H. striata* photo., Pleistocene, Banka near Piešťany, W. Slovakia, Prošek & Lošek (2).

Helicidae—species infected by soil protozoa, Burch, J. B. (2); Giant snails from the northern Sierra of Majorca, Colom, G. (2).

Helicigona lapidea land mollusc on the Danish sea shore, Bondesen, P.

†*Helicigona banatica* photo., interglacial, Předmosti, Czechoslovakia, Lošek, V. (10); *H. banatica* interglacial mollusc from the Kutna Mts., Czechoslovakia, Lošek, V. (24).

Helix *aspersa* uptake of radioactive C^{14} , Allen, V.; *H. aspersa*, *H. pomatia*, and *H. melanostoma* conditions for production of the epiphragm, Bonavita, D.; *H. aspersa*, histochemical and electron microscope study of the acroblast, Bradbury, Chou & Meek; *H. aspersa* structure

and function of cutaneous glands, *Campion, M.*; *H. aspersa* comparison of foot histology with *Discus rotundatus*, *Elves, M. W.*; *H. aspersa* epibranch formation, *Walrecht, J. J. R.* (2); *H. aspersa* chemical composition of gelatin, *Williams, A. P.*; *H. pomatia* histochemistry of the hepatopancreas in relation to shell regeneration, *Abolins-Krogis, A.*; *H. pomatia* histochemical study of glycogen and alkaline phosphatases in the hepatopancreas, *Acatrinei, G.*; *H. pomatia* histology of the kidney, *Bouillon & Van Mol*; *H. pomatia* haemocyanin studied by electron micrographs, *Bruggen, Wiesinga & Gruber*; *H. pomatia* amino acids liberated by the haemolymph during hibernation, *Cardot & Ripplinger*; *H. pomatia* arylsulphatase activity in the digestive gland, *Dodgson & Powell*; *H. pomatia* parasitized by dipteran larvae, *H. (Cryptomphalus) aspersa* parasites listed, *Dollfus, B. F.*; *H. pomatia* unsaponifiable fraction of body tissues, *Gastaud, J. M.*; *H. pomatia* parasomes of the albumen gland, *Ionescu-Varo, M.*; *H. pomatia* study of heart structure and physiology, *Jullien, Cardot, Joly & Verneaux* (2); *H. pomatia* composition of the amino acid liberated in the heart during hibernation, *Jullien, Cardot & Ripplinger*; *H. pomatia* osmoregulation, *Koshitoyants & Rézsa*; *H. pomatia* steroid sulphatase, aryl sulphatase and β -glucuronidase, *Leon, Bulbrook & Corser*; *H. pomatia* carbohydrate metabolism, *Martin, A. W.*; *H. pomatia* phosphatase activity of the intramural nerve plexi of the intestine, *Minker & Domján*; *H. pomatia* automatic movements produced in isolated organs by impulses from the intramural nerve plexi, *Minker & Koltai*; *H. pomatia* effect of calcium on ventricle contraction, *Paul, D. H.*; *H. pomatia* role of haemolymph constituents in heart activity, *Ripplinger & Joly* (1); *H. pomatia* factors upon which vagale heart inhibition depends, *Ripplinger & Joly* (2); *H. pomatia* cytological studies on the morphology of the spread of muscular contractions, *Schlote, F.-W.*; *H. pomatia* in Plymouth, Massachusetts, *Turner, R. D.* (1); *H. pomatia* ability of β -glucuronidase preparation to hydrolyse glucosiduronic acids, *Wakabayashi & Fishman*.

Iberus marmoratus violacea taxonomic note and history of the species, *Altana, C. O. v. R.* (2).

Levanina hierosolyma source of cellulases in the digestive tract, *Parnas, I.* (2); *L. hierosolyma* cellulolytic activity, *Parnas, I.* (1).

Monacha incarnata note on giant form described by Frömming in 1948, *Altana, C. O. v. R.* (5); *M. incarnata* new to Moldavia, *Husanu, O.*

†*Monachoides incarnata* and *M. vicina* photos., interglacial, Předměstí, Czechoslovakia, *Lošek, V.* (10); *M. umbrosa* Pleistocene, Czechoslovakia, *Lošek, V.* (20).

Monadenia fidelis baxteriana Talmadge 1954, taxonomic revision placed in the synonymy of *M. f. beryllica*, *Talmadge, B. R.* (1).

Murella muralis var. *orgonensis* (= *Helix orgonensis* Philbert) described from Vaucluse, France, *Granger, J.* (3); *M. muralis* ecology, Isle of Lipari, *Sacchi, C. F.* (3).

Papuina classification, on identification of *Papuina ferussaci* (Lesson), *Henrard, J. B.*

Perforatella incarnata a land snail on a Danish beach, *Bondesen, P.*

†*Perforatella bidens* photo., interglacial, Předměstí, Czechoslovakia, *Lošek, V.* (10).

Polydonta (Granodonta) lima (Férussac 1821) and var. (?) *incerta* ("Fér." Beck) or (Férussac); *P. (G.) lima asperula* (Beck)—figure selected as representing the type shell; and *Tortola*, Virgin Islands as type locality, *Baker, H. B.* (5).

Satsuma (Luchuhadra) amanoi Kuroda sp. nov. p. 80 pl. 3 fig. 31; *S. (Coniglobus) sakiishimana* sp. nov. p. 80; *S. (C.) tadai* Kuroda sp. nov. p. 81 pl. 3 figs. 28–30, Okinawa Is., Kuroda, T. (1).

Theba carthusiana large size variations in adults living under atypical ecological situations in the Venice Lagoon, *Sacchi, C. F.* (6); *T. olivieri* ecology, Isle of Lipari, *Sacchi, C. F.* (3); *T. pisana* localities in Guernsey, *Crowley, T. E.* (1); *T. pisana*, temperature and body colour, *Reichmuth & Frömming*; *T. pisana* occurring in large numbers, *Vervoort, W.*

Trichia bakowskii endemic in the Tatra Mts., Czechoslovakia, *Lošek, V.* (23); *T. hispida* reproductive anatomy, figs., *Flisar, I.* (1); *T. undidentata* and *T. villosula* from the Oder river, Moravia, Czechoslovakia, photos., *Mácha, S.*

†*Trichia villosula* photo., interglacial, Předměstí, Czechoslovakia, *Lošek, V.* (10).

Xanthonychidae of Puerto Rico, *Baker, H. B.* (2).

STREPTAXACEA

Diaphora locardi angayensis nem. nov. p. 106 pl. 9 fig. 89; for *D. l. elongata* Moellendorff 1898 non 1890, *Zilch, A.*

Gonaxis usambarensis sp. nov. p. 8 text-figs. 3 a, b, 4, 5, 9, Tanganyika, East Usambara, Mt. Bomole Amani [3,500 ft.] anatomical notes on other species of *Gonaxis* and classification of Streptaxidae, *Verdcourt, B.* (2).

Gulella pilula (Preston) on the variation, *Verdcourt, B.* (1).

Oophana (Haploptychius) acuti-carinata sp. nov. p. 34 pl. 8 fig. 1, Gunung Sinyung, Pahang, Malaya, *Jutting, W. S. v. B.* (3); *O. eutropha* limestone habitat, Malaya, *Berry, A. J.* (2).

Paryphanta (Powelliphanta) hochstetteri bottom of a 30 ft. sink hole, Upper Takaka District, subfossil; *P. (Powelliphanta) rossiana patrickensis* 4,500 ft. Lookout Range east of Mt. Owen; new records from the Nelson Province, New Zealand, *Townsend, J. I.*

Ptychotrema (Pareneia) uniluratum Smith figd.; *P. (Haplonopion) mahariense* p. 157 f. 2; *P. (Ennea) kun-guense* p. 159 f. 3, 4; *P. (Pareneia) somaliense* p. 159 f. 5; spp. nov. Eastern Africa, *Verdcourt, B.* (7).

Rhytida greenwoodi ecology from Waitomo Caves, New Zealand, *Warren, P.* (1).

Schizoglossa n. novoseelandica collected from Waitomo, New Zealand, *Warren, P.* (1).

Sinoennea apicata p. 10 pl. 1 fig. 2, Gua Bama, Pahang; *S. bacca* p. 11 pl. 1 fig. 3, Gua Che Yatin, Pahang; *S. glebula* p. 12 pl. 1 fig. 4, Gua Che Yatin, Pahang; *S. callizonus* p. 13 pl. 2 fig. 6, Gunung Sinyung, Pahang; *S. leucostolus* p. 14 pl. 2 fig. 7, Ulu Kenyam Kechil, Pahang; *S. crumenilla* p. 16 pl. 2 fig. 9, Gua Nenek, Kelantan; *S. chrysallus* p. 17 pl. 3 fig. 10, Gunung Kantang, Perak; *S. pagodella* p. 18 pl. 3 fig. 11, Gua Bama, Pahang; *S. dactylus* p. 25 pl. 6 fig. 19, Bukit Serdam, Pahang; *S. baculum* p. 25 pl. 6 fig. 20, Kota Gelanggi, Pahang; *S. tiarella* p. 26 pl. 6 fig. 21, Gunung Batu Kurau, Perak; *S. attenuata* p. 29 pl. 7 fig. 25, Gua Musang, Kelantan; *S. lepida* p. 30 pl. 7 fig. 26, Gua Siput, Pahang spp. nov. Malaya, *Jutting, W. S. v. B.* (2); *S. chintamanie* limestone habitat, Malaya, *Berry, A. J.* (2).

Stenomarcusia (Germain) "gen. nov." p. 18 described 1934, from Mt. Kenya; *Marcusia (Stenomarcusia) jeanneli* Germain removed to generic rank and defined p. 18 due to more anatomical data being available, *Verdcourt, B.* (2).

Streptaxidae types in the Senckenberg Museum, Zilch, A.

SCAPHOPODA

DENTALIACEA

†*Cadulus (Gadila) gadus ventricosa* Pliocene, Castell' Arquato, Piacenza, Italy, Caprotti, E.; *C. (Gadila) korobkovi* sp. nov. p. 157 text-fig. 2, northern Caucasus Eocene, Merklin, R. L. (3).

Dentalium inaequicostatum deep water faunal associations, Jacquotte, R.; *D. inaequicostatum* and *D. rubescens* deep sea associations off Provence, Picard, J.

†*Dentalium grossheimi* sp. nov. p. 158 text-fig. 1, northern Caucasus, Eocene, Merklin, R. L. (3); *D. (Dentalium) zezangulum*, *D. (D.) s. acutangularis*, *D. (D.) inaequale*, *D. (D.) michelottii*, *D. (Dentalium) fossile varicostata*, *D. (D.) dentale*, *D. (D.) novemcostatum* and *D. (Gadilina) triquetrum*, Pliocene, Piacenza, Italy, Caprotti, E.

†*Entalina tetragona* Pliocene, Castell' Arquato, Piacenza, Italy, Caprotti, E.

Siphonodentalium kikuchii sp. nov. p. 36 for *Dentalium (Compressidens) stearnsi* Kuroda and Kikuchi 1933 non Pilabry & Sharp, Japan, Kuroda & Habe.

PELECYPODA

Lamellibranchia, characteristics, key to families and general ecology of British species, Eales, N. B.; General ecological study of lamellibranchs on the sea shore, Street, P.

†Lamellibranchiata, atlas of the Triassic fauna of the USSR, Kiparisova, L. D.; Atlas of leading forms from the Jurassic of USSR, Petrova, G. T. in Krimholz, G.

Pelecypoda, of South Australia, figs., general work, classification and distribution, Cotton, B. C. (2); Physiology of reproduction, Galtsoff, P. S.; Pelecypoda of the Panamic-Pacific faunal provinces, key to families, zoogeography and systematics, figs., Olsson, A. A.; Check list of New Zealand Pelecypoda, figs., Powell, A. W. B.

Teleodesmacea of South Australia, figs., general work, classification and distribution, Cotton, B. C. (2).

†*Elliptioidea* gen. nov. p. 864 type species *E. vulgaris* sp. nov. p. 864 pl. 97 fig. 10, Harvey Co., Kansas Permian, Tasch, P.

†*Productae* gen. nov. p. 864, type species *P. dunbari* sp. nov. p. 864 pl. 97 fig. 9, Harvey Co., Kansas Permian, Tasch, P.

†*Rostrotortus* gen. nov. p. 863, type species *R. dissimilis* sp. nov. p. 863 pl. 97 fig. 7, Harvey Co., Kansas Permian, Tasch, P.

†*Stagmestesta* gen. nov. p. 863, type species *S. solitaria* sp. nov. p. 863 pl. 97 fig. 5, Jester Creek, Harvey Co., Kansas Permian, Tasch, P.

PRIONODESMACEA

†*Buchia malayomaorica* Kimmeridgian, Jurassic, Kawhia, New Zealand, Fleming, C. A.

†*Grammysioidea nitidaeformis* sp. nov. p. 172 pl. figs. 22, 23, Karagand SSSR Carboniferous, Aleksandri-Sadova, T. A.

†*Myoconcha delta* sp. nov. p. 577 pl. 81 figs. 3, 4 a-b, Iron Sands of Seend, Wiltshire (Lower Greensand), Casey, R. (4).

Prionodesmacea of South Australia, figs., general work, classification and distribution, Cotton, B. C. (2).

NUCULACEA

Acila castrensis, ciliation and function of labial palps; role of protobranch feeding organs in the evolution of the bivalves, Stasek, C. R.

†*Anodontophora takiguchiensis* sp. nov. p. 214 pl. 12 figs. 14-17, Takiguchi and Aso, W. Japan, Triassic, Tokuyama, A. (1).

†*Anthracoana thuringensis* Permo - Carboniferous, Austria, Flügel, E.; *A. ventricosa* p. 147 pl. 21 figs. 17-24, Argenteau-Trembleur; *A. angulosa* p. 149 pl. 19 figs. 15-23, Bois-et-Borsu; *A. perlongata* p. 151 pl. 21 figs. 1-16, Argenteau-Trembleur; spp. nov. Carboniferous, Belgium, Pastels, A. (1).

†*Anthracoana bohemica* Permo-Carboniferous, Austria, Flügel, E.

†*Cardiola interrupta* Silurian, Bulgaria, Spassow, H.

Clencharia subgen. nov. p. 373 of *Tindaria* type species *T. (C.) diaphana* sp. nov. p. 374 pl. 1 fig. 2, R/V Vema station 52 (2711 fms. Agulhas basin, 800 miles S.W. Capetown, S. Africa), Clarke, jr., A. H. (2).

†*Leda bellistriata karagandensis* var. nov. p. 171 pl. figs. 20, 21, Carboniferous, Karagand, SSSR, Aleksandri-Sadova, T. A.; *L. prendeli* sp. nov. p. 652 pl. 6 fig. 6, Taman peninsula, Miocene, Russia, Andrusov, N. I. (9).

Malletia johnsoni sp. nov. p. 370 pl. 2 fig. 6, R/V Vema station 22 (1675 fms. Angola basin, 175 miles W. of Banana, Belgian Congo), Clarke, jr., A. H. (2).

†*Neamnigenia mitinensis* p. 126 pl. 1 fig. 4; Mitin, N. belovae p. 127 pl. 1 fig. 3; *N. mira* p. 127 pl. 1 fig. 2; Kuz basin, spp. nov. Kuznetz deposits, Miocene, Russia, Betekhtina, O. A.

Nucula turgida common in Rye Bay, English Channel, Holme, N. A. (1); *N. turnerae* sp. nov. p. 367 pl. 2 figs. 2, 3, R/V Vema station 12 (2805 fms. Argentine basin, 1000 miles E.S.E. Buenos Aires), Clarke, jr., A. H. (2).

†*Nucula montecana* sp. nov. p. 47 text-fig. 810, Santonian Cretaceous, Font de la Plata, Rubiés (Lérida), Spain, Battaller, J. R. (4).

Nuculana (Saccella) dranga sp. nov. p. 63 pl. 2 fig. 5, Esmeraldas, Ecuador, Olsson, A. A.; *N. (Thestyloda) louisae* sp. nov. p. 375 pl. 1 fig. 7; R/V Vema Station 12 (2805 fms., Argentine basin 1000 miles E.S.E. Buenos Aires), Clarke, jr., A. H. (2).

†*Nuculana curvirostris* sp. nov. p. 11 pl. 1 figs. 5, 6; Santa Clara, San Marcial, Sonora, Mexico, Trias, Aleu-caster de Cserna, G.; *N. hoelscheri* sp. nov. Nanutara formation Western Australia, Cretaceous pp. 9, 12 pl. 1 f. 1 a, b, Cox, L. R. (1); *N. (Dacryomya) konishii* sp. nov. p. 114 pl. 16 fig. 1, Osakabe, Atetsu Co., Okayama Pref. Lias, Japan, Hayami, I. (1); *N. limai* sp. nov. p. 64 text-figs. 1-3b, Itaporanga, State of São Paulo, Brazil, Upper Carboniferous, Mezalira, S.; *N. (Dacryomya) nogamii* sp. nov. p. 269 pl. 13 figs. 23-27, Eo-Triassic, Hirobatake, Oe-cho, Japan; *N. (D.) n. yakunoensis* subsp. nov. p. 270 pl. 14 figs. 1-3, 4? Gujo and Ichio, Nakazawa, K.

Nuculanidae, biometrical analysis of ontogeny, Růžicka, Prantl & Hajkr.

†Nuculanidae, types of the Tertiary species of Ralph Tate, figs., Ludbrook, N. H. (2).

†Nuculidae types of the Tertiary species of Ralph Tate, figs., Ludbrook, N. H. (2).

Polidecia hrebickii biometric study of ontogeny, Růžicka, Prantl & Hajkr.

†*Polidocia krebmickii* sp. nov. p. 145 fig. 3, Potkivice beds, Namurian A, Carboniferous, deep bore Brzezinka 1, Gliwice district, Upper Silesia, Poland, Rätzka & Bojkowski.

Pronucula benguelana sp. nov. p. 368 pl. 3 figs. 9, 11, R/V Vema station 14 (1703 fms. Cape basin, 400 miles N.W. Capetown, S. Africa), Clarke, Jr., A. H. (2).

Solemya parkinsoni habits and nutrition, Owen, G. *Tindaria champi* sp. nov. p. 372 pl. 2 figs. 1, 4, R/V Vema station 12 (2805 fms., Argentine basin, 1000 miles E.S.E. Buenos Aires); *Tindaria (Clenchiaris) diaphana* subgen. nov. p. 373, q.v., Clarke, Jr., A. H. (2).

Yoldia similis nom. nov. p. 35 pro *Yoldia naganumana* Kuroda 1929 non Yokoyama, Japan, Kuroda & Habe.

†*Yoldia aoki* Nomura et Zinbo 1935, synonym of *Portlandia (Portlandella) hurukutsensis* (Nomura et Zinbo 1935), Oyama, K. (5).

ARCAEAE

Anadara (Diluvarca) adamsi sp. nov. p. 90 pl. 6 figs. 7, 7a, 7b, Palo Seco, Canal Zone; *A. (Grandiarcia) grandis* subgen. nov. p. 93 pl. 7 figs. 1, 1 a-c, Tumbes, Peru; *A. (Sectiarcia) concinna* subgen. nov. p. 97 pl. 8, figs. 1, 1a, Amador Beach, Balboa, Canal Zone; *A. (Calosarca) rustica* subgen. nov. p. 98; *A. (Esmerarca) reinharti* subgen. nov. p. 99; Gulf of California to Ecuador pl. 8 fig. 4, pl. 9 fig. 1, pl. 10 figs. 4-4d, Olsson, A. A.; *A. broughtoni* changes in muscular nucleotides during storage, Aral, K.; *A. broughtoni* changes in adenine nucleotides of muscle, Aral & Saitō; *A. inflata* xanthine dehydrogenase study, Tsuzuki, K.; *A. subcrenata* from Fukuyama harbour, Matsudaira, Koyama & Endo; *A. trapezia* morphology, micro-anatomy, histology and ciliary currents, Sullivan, G. E.

†*Anadara addita* and *A. amida* "subsp. nov." p. 113, from the Onnensai formation, Hokkaido, Imanishi, S.; *A. kakehataensis* taxonomy and palaeontology; synonymous with *A. furosedaviensis*, referable to *Scapharca* as subgenus; junior form of *A. daikokudoensis* closely related, always associated with *Vicarya*, Miocene, Japan, Fujii, S. (2); *A. (Noetia) marceisi* sp. nov. p. 8 pl. 1 figs. 1-10 text-fig. 3, Lutetian, Cretaceous, Ganntour, Morocco [as *Arca (Noetia) marceisi* on pl.], Salvan, H.

†*Apotinter* gen. nov. p. 575 of *Parallelodontidae* genotype *Arca optiensis* Pictet & Campiche 1866, Lower Greensand, England, Casey, R. (4).

Arca glycymeris (type-species of *Glycymeris* Da Costa 1778) Linnaeus 1758, proposal to place the specific name on the Official List, also *A. pilosa* (type-species of *Azinaea* Poli 1791) Linnaeus 1787, Vokes & Cox; *A. granosa* in the bottom fauna of the Vellar estuary, Balasubrahmanyam, K.; *A. lactea* collected off Arcachon, Amanieu & Casaux.

Azinaea Poli 1791 (type-sp. by designation by Gray 1847, *Arca pilosa* Linnaeus 1758) proposal to be placed on the Official List of Generic Names, Vokes & Cox.

Azinaeinae H. & A. Adams 1858, proposal to suppress this name (type-genus *Azinaea* Poli 1791) and place it on the Official Index of Rejected and Invalid Family-Group Names, Vokes & Cox.

†*Barbatia (Plagiarcia) lucidoides* sp. nov. p. 32 pl. 4 figs. 6, 7, Eocene, Southern Ukraine, Korobkov, I. A.; *B. mongini* sp. nov. p. 10 text-fig. 4 pl. 1 figs. 11-13, Lutetian, Cretaceous, Louis-Gentil, Morocco [as *Arca (Barbatia) mongini* on pl.], Salvan, H.; *B. subquadrata* sp. nov. p. 63 pl. 17 figs. 9-14, Comanchean Cretaceous, Tarrant Co., Texas, Perkins, B. F.

VOL. 98

†*Bathysarca gigantica* sp. nov. p. 15 pl. 1 figs. 1, 2, 3, Palaeogene, S.W. Armenia, Aslanyan, P. M. (1).

†*Breviarcia almela* sp. nov. p. 48 text-fig. 811, Maestrichtian Cretaceous, Torallola (Lérida), Spain, Bataller, J. R. (4).

Calosarca subgen. nov. p. 98 of *Anadara* q.v. subgenotype *Anadara rustica* (Tuomey & Holmes), Olsson, A. A.

†*Cryptochasma* gen. nov. p. 576 of *Cucullaeidae* genotype "*C. ovale* sp. nov. (= *Cucullaea* sp. ?, Keeping 1883, p. 115 pl. 5 fig. 8, holotype = *Cucullaea* cf. *cornueliana* Kirkaldy 1937 p. 118) Upper Aptian, England," Casey, R. (4); *C. libycum* sp. nov. p. 269 pl. 20 figs. 2-5, Cenomanian, Cretaceous, Rumia Oasis, Tripoli, Ronchetti & Albanesi.

Esmerarca subgen. nov. p. 99 of *Anadara* q.v. subgenotype *Anadara reinharti* (Lowe), Olsson, A. A.

Glycymeris Lamarck 1799, proposal to suppress this name and place it on the Rejected and Invalid Generic Names Official Index, also *Glycymeris* Lamarck 1801 (junior homonym of *Glycymeris* L. 1799); *Glycymeris* Da Costa 1778 (type-sp. *Arca glycymeris* Linnaeus 1758) proposal to place this name on the Official List of Generic Names, Vokes & Cox.

Glycymeridae Stewart 1930 (type-genus *Glycymeris* Da Costa 1778) proposal to place this name on the Official List of Family-Group Names, Vokes & Cox.

Glycymeris (Glycymeris) linteus sp. nov. p. 106 pl. 11 figs. 4, 4a, coast between Punta Blanca and Puerto Callo, Ecuador, Olsson, A. A.; *G. orbicularis* (junior objective synonym of *glycymeris* Linnaeus 1758, as published in the binomen *Arca glycymeris*) Da Costa 1778, proposal to place the specific name on the Official Index of Rejected and Invalid Specific Names, Vokes & Cox.

†*Glycymeris glycymeris variabilis* figs., Pliocene, mouth of the West-Scheldt, Morat, J. M. (1); *G. mckellari* sp. nov. p. 14 pl. 1 fig. 7, 8 1/2 miles N.N.W. of the range homestead, Nanutarra, W. Australia, Cretaceous, Cox, L. R. (1).

†*Grammatodon (Parallelodon)* cf. *equosus* Carboniferous, Radlin Święty Krzyż Mta., Łakowa & Pawłowska.

Grandiarcia subgen. nov. p. 93 of *Anadara* q.v. subgenotype *Arca grandis* Broderip & Sowerby, Olsson, A. A.

†*Limopsis dolomitica* sp. nov. p. 576 pl. 79 fig. 4, Sandgate Beds, Mill Point, Folkestone, Kent, Casey, R. (4).

Lissarca miliaris predominant species in a micro-community in the Antarctic intertidal zone, Castellanos, Z. J. A. de (1).

†*Noramyia* gen. nov. p. 575 of *Cucullaeidae* genotype *Arca forbesi* Pictet & Campiche 1866, Lower Greensand, S.E. England, Casey, R. (4).

†*Palaeocucullaea* subgen. nov. p. 205 of *Parallelodon*; type species *Parallelodon (Palaeocucullaea) monobensis* p. 206 pl. 12 figs. 1-6, Triassic, Hirabara, W. Japan, Tokuyama, A. (1).

†*Parallelodon (Palaeocucullaea)* subgen. nov. q.v., Tokuyama, A. (1); *P. bistratus* Viséan Carboniferous, Freiberg, Germany, Sittig, E.; *P. (?) kiptschakensis* sp. nov. p. 172 pl. figs. 1-19, Kazakhstan, R. Kiptschak, SSSR, Carboniferous, Aleksandri-Sadova, T. A.; *P. shachtauensis* sp. nov. p. 159 text-fig. 1, Early Permian, Bashkirskaya, Kazakhstan [as *shachtauensis* on text-fig. and p. 159], Nel'zina, R. E.

Pectunculinae Dall 1898 (type-genus *Pectunculus* Lamarck 1799) proposal to reject this family-group name as invalid because the name of its type-genus is a junior homonym, Vokes & Cox.

†*Pleurophorus* Chavan 1954 nom. nov. pro. *Pleurophorus* King 1848 non Mulsant 1842, Permian, note to draw attention to Chavan's paper [Les *Pleurophorus* et genres voisins: Cahiers géologiques de Thiory No. 22 p. 200, 1954], Fay, R. O.

Sectiarcia subgen. nov. p. 97 of *Anadara* q.v. subgenotype *Arca inaequalis* Bruguière, Olsson, A. A.

†*Trisidos* (*Trisidos*) *yatsuoensis* sp. nov. p. 218 text-f. 1-4, Miocene, Yatsuo Town, Toyama Pref., Japan, Fujii, S. (1).

Tuceta Röding 1798, proposal to place this name on the Official Index of Rejected and Invalid Generic Names, as a junior objective synonym of *Azinaea* Poli, 1791, Vokes & Cox.

MYTILACEA

Acidimyltilus subgen. nov. p. 120 of *Scolimyltilus* gen. nov. q.v. subgenotype *Mytilus adamsiana* Dunker, Olsson, A. A.

Anthraconauta Pruvost 1930, type-sp. *Unio philippii* Williamson 1836, is placed on the Official List of Generic Names, Opinion 595.

†*Anthraconauta inaratus* p. 261 pl. 1 fig. 17; *A. orbiculata* p. 263 pl. 1 fig. 14; *A. butovi* p. 265 pl. 2 fig. 2; *A. nurensis* p. 267 pl. 2 fig. 6; *A. triangulus* p. 268 pl. 2 figs. 7-10; *A. samarskiensis* p. 268 pl. 2 fig. 12; *A. amotus* p. 269 pl. 2 fig. 13; *A. dgilandensis* p. 270 pl. 2 fig. 14; *A. infumakensis* p. 270 pl. 2 figs. 15, 16; spp. nov. Samara, USSR, Carboniferous, Sergeev, V. V.

†*Arcomyltilus volgensis* sp. nov. p. 136 pl. 36 figs. 8, 9, Volga, Yaroslavl'skaya province, Jurassic, European Russia, Gherasimov, A. F.

†*Boiomyltilus* gen. nov. p. 76, genotype: *B. newelli* sp. nov. p. 77 text-f. 1, 2 pl. 7, Lower Devonian, Mt. Zlatý Kůň, Koňeprusy, Central Bohemia, Růžicka & Prantl (1).

Brachidontes exustus still alive after unusually heavy tropical rains killing many other animals, Goodbody, I.; *B. minimus* ecology and biology, Bouchet, J. M.; *B. senhousia* in fouling communities, Ago Bay, Japan, Kawahara, T.

Brachyodontes see *Brachidontes*.

†*Byssomychia* from the U. Ordovician of Cincinnati, Ohio, tentatively placed in the Ambonychiidae, general study, Pojeta, J., jr.

†*Chondrodonta ioannae* Cretaceous, Hvar-Lesina, Dalmatia, Langer, W. (1).

Choromytilus chorus ecology and distribution, Chile, Stuardo, J. (2).

Crenella caudata sp. nov. p. 130 pl. 17 fig. 2, Santa Elena, Ecuador, Olsson, A. A.

Exosiperna kuroharai sp. nov. off Shimizu City, Kochi Pref., Shikoku, Japan pp. 150, 154 text-fig. 4, Habe, T. (3).

Lithophaga (*Rupiphaga*) *hastasia* subgen. p. 138 et sp. nov. p. 139 pl. 15 figs. 5-5f, Esmeraldas, Ecuador, Olsson, A. A.

†*Lithophaga isfarensis* sp. nov. p. 128 text-fig. 1, Eocene, Ferghana, Russia, Merklin, R. L. (2).

Modiola phaseolina in the zoobenthos of the Black Sea, Kaneva-Abadjieva & Marinov.

Modiolaria costulata in the infralittoral of Bonifacio, Corsica, [Bellan] Santini, D. (2); *M. marmorata* associated with the integument of *Holothuria tubulosa*, Changeux, J.-P.

Modiolus demissus cilioexcitatory activity of serotonin, Gosselin, R. E.; *M. demissus* particle transport by gill cilia, Gosselin & O'Hara; *M. demissus* structure and energy flow in a salt marsh population in Georgia, Kuenzler, E. J. (1); *M. demissus* population in a Georgia intertidal salt marsh, study of phosphorus content and availability, Kuenzler, E. J. (2); *M. demissus* rate of water pumping in relation to salinity and temperature, Nagabhushanam, R. (5); *M. modiolus* second record from an Irish raised beach, MacDonald, R.; *M. modiolus* cellular thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.; *M. modiolus* beds in the benthic fauna of Georges Bank, Wiggles, R. L.; *M. pseudotulipus* p. 127 pl. 14 figs. 2, 2a, Punta Blanca, Ecuador; *M. pacificus* p. 127 pl. 14 figs. 3, 3a; Salinas, Bay of Sechura, N.E. of Bayovar, Peru spp. nov., Olsson, A. A.

†*Modiolus* "exiguus" sp. nov. p. 67 pl. 18 figs. 9-11, Comanchean Cretaceous, Tarrant Co., Texas, Perkins, B. F.; *M. okubataensis* sp. nov. p. 210 pl. 13 figs. 6-8, Hirabara and Okubata, W. Japan, Triassic, Tokuyama, A. (1); *M. omanensis* sp. nov. p. 15 text-figs. 5 a-c, Triassic, Oman Peninsula, Arabia, Hudson & Jefferies.

Mytilaster lineatus ontogeny and shell development, Nevesskaya, L. A.

Mytilus effects of acetylcholine and 5-hydroxytryptamine on smooth muscle contraction, Twarog, B. M. (2); *M. californianus* and *M. edulis* tidal rhythm of rate of water propulsion, Fingerman, M.; *M. californianus* and *M. edulis* composition of the organic matrix of the shells, Hare, P. E.; *M. californianus* effect of ryanodine on muscle, Haslett & Jenden; *M. edulis* form and function of brush borders in the epithelial cells of the gills, Atzelius, B. A.; *M. edulis* contractile mechanism of muscle, Cambridge, Holgate & Sharp; *M. edulis* respiration of tissues and tissue homogenates from brackish and sea-water, Erman, P.; *M. edulis* cilioexcitatory activity of serotonin, Gosselin, R. E.; *M. edulis* particle transport by gill cilia, Gosselin & O'Hara; *M. edulis* calcite prisms and concholine in the shell, Grégoire, C.; *M. edulis* reproduction in the summer 1960, in the Finnish S.W. Archipelago, Heilonen, A.; *M. edulis* localization of myosin and paramyosin in the myofibrils of the byssus retractor, Kahn & Johnson; *M. edulis* histological distribution of uric acid, Kasuga & Ishida; *M. edulis* study of oxygen usage dependence, Krüger, F.; *M. edulis* curved and unguate forms, their relationship to *M. galloprovincialis*, Lewis & Powell; *M. edulis* and *M. galloprovincialis* distribution around the S.W. coasts of France, morphology, biology, metabolism, gametogenesis and emission of gametes, Lubet, M. P.; *M. edulis* measurement of cytochrome respiratory pigments, Pablo & Tappel; *M. edulis* and *M. californianus* preyed on by *Octopus*, Pilson & Taylor; *M. edulis* cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.; *M. edulis* contractile proteins, Rüegg, J. C. (1); *M. edulis* ionic gradients in spermatozoa, Steinbach & Dunham; *M. edulis* determination of oxygen uptake and respiratory quotients in CO₂-air mixtures, Travis, D. M.; *M. edulis* xanthine dehydrogenase study, Tazuki, K.; *M. edulis* innervation and activity of smooth muscle, Twarog, B. M. (1); *M. edulis* and *M. grayanus* heat sensitivity in the Sea of Okhotsk and Sea of Japan, Zhirmunskii & Pisareva; *M. galloprovincialis* biometric analysis of a population living in Venice Lagoon, Italy, Génovèse, S.; *M. galloprovincialis* histology and histochemistry of the byssus gland and byssus formation,

Gerzeli, G.; *M. galloprovincialis* phasic and tonic responses of the anterior byssal retractor, Jewell, B. R.; *M. galloprovincialis* in the Black Sea zoobenthos, Kaneva-Abadjieva & Marinov; *M. galloprovincialis* and *M. edulis* absence of cells containing succinic dehydrogenase in the gills, Natochin, Khlebovich & Krestinskaya; *M. galloprovincialis* ability to accumulate strontium-90, cecium-137, and cerium-144, Polikarpov, G. G.; *M. galloprovincialis* seasonal change of glycogen in the gonad, Rensoni, A. (1); *M. galloprovincialis* seasonal variation of the gonads and their histology, Rensoni, A. (2); *M. galloprovincialis* ecology in Lake Fusaro (Naples), Rensoni & Sacchi; *M. galloprovincialis* ecological study "Lago di Patria," Naples, Sacchi, C. F. (1); *M. galloprovincialis* effect on steel corrosion, Ulanovsky, Turpaeva, Simkina & Korovin; *M. galloprovincialis* effect of increased temperature on the ciliated epithelium, Zhirmunskii, A. V.; *M. platensis* general biology and economic exploitation, Castellanos, Z. J. A. de (3); *M. platensis* parasitized by *Bucephalus*, Castellanos, Z. J. A. de (4).

† "Mytilus" Barrande (non Linn. 1758) biometrical study shows Barrande's Lower Palaeozoic species to be taxonomically undefinable, Hajkr, Růžicka & Prantl; *M. edulis* and *M. californianus* paleoecological implications of shell mineralogy, Dodd, J. R.; *M. (Falcimylus) hirabarensis* sp. nov. p. 210 pl. 13 fig. 9, Hirabara, W. Japan, Triassic, Tokuyama, A. (1); *M. (Chloromya) sonorensis* sp. nov. p. 21 pl. 4 figs. 1-6, pl. 5 figs. 4, 5, Santa Clara, Sonora, Mexico, Trias, Alencaster de Cserna, G.; *M. tkvarcheliensis* sp. nov. p. 62 pl. fig. 9, Chokrakak deposits, ? Miocene, Georgia, Russia, Baghdasaryan, K. G.

Perumylus gen. nov. p. 116 of Mytilidae genotype *Modiola purpurata* Lamarck pl. 12 fig. 1, pl. 14 figs. 1-1b, Lobos de Tierra Is., S. America, Olsson, A. A.

Rupiphaga subgen. nov. p. 138 of *Lithophaga* q.v. subgenotype *Lithophaga hastasia* sp. nov. q.v., Olsson, A. A.

Scolimylus gen. nov. p. 118 of Mytilidae genotype *Modiolus (Brachydontes) playanaensis* Pilbry & Olsson, pl. 13 figs. 2-2c, Gulf of Guayaquil; *S. (Scolimylus) emeraldensis* p. 119 pl. 13 figs. 1-1b, Emeraldas, Ecuador; *S. (S.) aequatorialis* p. 120 pl. 12 figs. 9-9b, Punta Centinella, Santa Elena Peninsula, Ecuador, spp. nov.; *S. (Aeidimylus) adamsianus* subgen. nov. p. 120 pl. 12 fig. 5, pl. 13 figs. 4, 4a, 6, Punta Banda, Lower California, Mexico, Olsson, A. A.

Folsella trailli in fouling communities, Ago Bay, Japan, Kawahara, T.

PTERIACEA

† *Actinoceramus perisulcatus* p. 32 pl. 2 figs. 9, 10; *A. pleurosulcatus* p. 34 pl. 3 figs. 14-16; *A. pseudosulcatus* p. 34 pl. 3 figs. 17, 18; spp. nov. Cretaceous, Akstafa, Azerbaidjan, Minor Caucasus, Khalilov, A. G. (1).

Avicula hiruudo associated with *Paramurex* in the Gulf of Gênes, Mediterranean, Rossi, L.

† *Avicula stoppanii semiradiata* var. nov. p. 77, Trias, S. of Inn between Schwaz and Wörgl, Austria, Pirkil, H.

† *Aviculopecten circularis* "sp. nov." p. 63, Permian, Transbaikalia, Russia, Maslennikov, D. F. in Naletov, P. L.; *A. proclivis* Koschm. (in litt.) emend. Nelz.; *A. pseudouralicus* Koschm. (in litt.) emend. Nelz.; *A. wicherensis* Koschm. (in litt.) emend. Nelz.; *A. ewpuresiformis* Koschm. (in litt.) emend. Nelz.; Permian Urals, stratigraphical list p. 33, Anon. (10).

† *Daonella prima* Kiparisova (in litt.) p. 103 pl. 18 figs. 1, 2, Kolyma river basin, USSR, Trias, Kiparisova, L. D.

† *Dentoperna* subgen. nov. p. 57 of *Isognomon* subgenotype *D. khudyae* p. 57 pl. 1 figs. 1, 2, Toarcian to Aalenian; *D. sabaicalica* p. 59 pl. 1 figs. 3-5, sp. nov.; *D. kulindensis* p. 61 pl. 2 figs. 1-3, Kulinda; *D. recta* p. 62 pl. 2 fig. 4, spp. nov. Kulinda, Krasnoyarskiy region, Transbaikalia, USSR, Jurassic, Okuneva, T. M.

Electroma georgiana sorted by tidal action, Cotton, B. C. (1).

† *Eopinctada* subgen. nov. of *Pinctada* p. 147, type species *P. (E.) matsumotoi* sp. nov. p. 150 pl. 22 figs. 1-4, Mifune to Mizukoshi Rd., Kumamoto Pref., Japan, Cretaceous, Tamura, M. (2).

† *Eumorphotis vai* Bodylevskii (in litt.) p. 124 pl. 12 figs. 20-23, Jurassic, Yakut, USSR, Petrova, G. T. in Krimholz, G.

† *Eurydesma mytiloides* from the Permian Dwyka beds of S. Africa, Dickinson, J. M. (3).

† *Halobia pamirensis* sp. nov. p. 105 pl. 18 figs. 10, 11, Pamira, USSR, Triassic, Kiparisova, L. D.

† *Hercynella comiensis* p. 22 pl. 3 fig. 1; *H. parvula* p. 23 pl. 3 fig. 2; *H. plana* p. 24 pl. 4 fig. 1; *H. uradica* p. 25 pl. 4 fig. 2; spp. nov. Lek-Eletz river, Arctic Urals, Russia, Devonian, Tchernov, G. A.

† *Inoceramus* spp. importance in the zonation of U. Cretaceous rocks in Colorado, Kauffman, E. G.; *Inoceramus* sp. Cretaceous, Lvov region, USSR, Kotaybinsky, S. P. (2); *I. balticus* and *I. mülleri* Cretaceous, Czechoslovakia, Nemčok, J. I. *bantu elongata* p. 47 pl. 2 fig. 3; *I. b. vonsensis* p. 48 pl. 1 figs. 6, 7, var. nov.; *I. hoffmanni* sp. nov. p. 48 pl. 1 fig. 5, pl. 2 figs. 2, 5; Santonian, Vonso, Bas-Congo, Sornay, J.; *I. copiensis* sp. nov. p. 587 pl. 82 fig. 5, Folkestone Beds, Copt Point, Folkestone, Kent, Casey, R. (4); *I. (Platyceramus) cycloides ahsenensis* p. 63 nom. nov. pro. *I. c. quadrata* Riedel 1931, Ahsen, Campanian; *I. (P.) rhomboides* sp. nov. p. 79 text-fig. 15, Eisen Mine; *I. (P.) r. rhomboides* subsp. nov. p. 82 pl. 3 fig. 2, pl. 4 figs. 1, 2, 7, text-figs. 16, 17; *I. (P.) r. heinei* sp. nov. nom. nov. p. 87 pl. 3 figs. 1, 8, pl. 4 figs. 3, 9, text-figs. 18, 19; pro. *I. cycloides undulata* Heine 1929, Ewald-Fortsetzung Mine; *I. (P.) r. transversocostatus* subsp. nov. p. 91 pl. 3 fig. 5, pl. 4 fig. 4, Ickern Mine; *I. (Cordiceramus) cordiformis purus* p. 118 pl. 6 figs. 3, 4, 7, pl. 10 fig. 9, text-figs. 26 e, f, Lüneberg, Zeltberg; *I. (C.) mülleri gosauensis* p. 135 pl. 8 fig. 3, text-figs. 29, 30, Rontograb, Gosau; *I. (C.) m. recklingensis* p. 137 pl. 8 figs. 2, 4, pl. 15 fig. 2, text-figs. 31, 32, Blumenthal General Mine, subsp. nov.; *I. (C.) bueltenensis* sp. nov. p. 140, Gross-Bülten; *I. (C.) b. bueltenensis* p. 142 pl. 9 figs. 1, 2, 4-6, text-figs. 33, 34, Gross-Bülten; *I. (C.) b. volanskaya* p. 144 pl. 9 fig. 3, pl. 10 figs. 3-6, text-figs. 35-37, Wulfen Mine; *I. (C.) b. arnoldi* p. 147 pl. 11 figs. 1-4, 7, pl. 13 fig. 2, text-figs. 38, 39, Hugo Mine, subsp. nov.; *I. (C.) cordiinitialis* sp. nov. p. 150, *I. (C.) c. cordiinitialis* p. 151 pl. 12 fig. 2, Ickern Mine; *I. (C.) c. spickernageli* p. 153 pl. 12 fig. 1, Ickern Mine; *I. (C.) c. igkernensis* p. 154 pl. 11 figs. 5, 6, 8, 9, pl. 12 figs. 3, 6, 8, Ickern Mine; *I. (C.) c. ? riedeli* p. 157 pl. 11 fig. 10, pl. 12 fig. 9, pl. 13 fig. 3, Bismark Mine, subsp. nov.; *I. (C.) branciformis* sp. nov. p. 159 pl. 13 figs. 1, 4, pl. 14 figs. 1-3, Recklinghausen; *I. (C.) köpfitzi* nom. nov. p. 163 pro *I. wegneri* Köpfitz 1920, Miocene Santonian, N.W. Germany, Seitz, O.; *I. daghestanensis* p. 146 pl. 13 figs. 2 a, b, Daghestan; *I. leaginnensis* p. 150 pl. 10 fig. 2, pl. 11 figs. 2 a, b, River Koaragh-Su; *I. dariensis* p. 153 pl. 14 figs. 2 a, b, River Dar'ya; *I. lauricus* p. 156 pl. 21 figs. 2 a, b, Crimea;

I. intermanensis p. 157 pl. 19 fig. 3; *I. euzinus* p. 157 pl. 20 figs. 1 a, b, spp. nov. also *I. ovatus* p. 139 [spp. nov. on pl. 16 figs. 3 a, b] and *I. bugulaensis* p. 140 [spp. nov. on pl. 22 fig. 1] Dobrov, Cretaceous, northern Caucasus and Crimea, Moskvina, M. M.; *I. elongatus* spp. nov. pp. 111 (141) pl. 4 figs. 11-14, Radenka, Golubac Mts., eastern Serbia Albian-Cenomanian, Cretaceous, Sudic-Protić, Z.; *I. galoi* and *I. haasti* Jurassic, Kimmeridgian, Kawhia, New Zealand, Fleming, C. A.; *I. koeneni* and *I. kleini* Coniacian, *I. schloenbachii*, U. Turonian, *I. costellatus*, M. Turonian, *I. labiatus* and *I. hercynicus*, L. Turonian, *I. pictus*, Plenuszone and *I. pictus*, Lower Cenomanian, Bohemia Cretaceous, Tröger, K.; *I. kolymaensis* Belajevskii (in litt.) p. 128 pl. 14 figs. 4 a-c, Jurassic, USSR, Petrova, G. T. in Krimholz, G.; *I. koscharenensis* spp. nov. (in coll.) p. 61 and list, Koshkar-Kyurak watershed, Minor Caucasus, Cretaceous, Aliev, O. B. (1); *I. labiatus* Cretaceous sandstones, Volino-Podol'skoi, Ukraine, Kotsyubinsky, S. P. (1); *I. pseudoretroreus* p. 104 pl. 21 fig. 7, Kostromskaya province; *I. (Anopaea) sphenoides* p. 105 pl. 20 figs. 2-5, Volga, Yaroslavl province, spp. nov. Jurassic, European Russia, Gherasimov, A. P.; *I. cf. uwajimensis*, *I. cf. balticus toyajonensis* and *I. elegans pseudosulcata* from the Cretaceous, Nagashima, S.W. Kyushu, Japan, Matsumoto in Takai & Matsumoto.

Isognomon alatus survival after tropical rain whilst sponges and ascidians present were all dead, Goodbody, I.

†*Isognomon* (*Dentoperna*) subgen. nov. q.v., Okuneva, T. M.; *I. rarum* p. 102 pl. 18 fig. 9, Moskva province, Kotelnikovo; *I. biplicatum* p. 103 pl. 17 fig. 1, Sapozhok region, Ryazanskaya province, Jurassic, European Russia spp. nov., Gherasimov, A. P.

†*Leiopteria hirundo* Viséan Carboniferous, Freiburg, Germany, Sittig, E.

†*Leptochorda* (?) *okuyamensis* spp. nov. p. 262 pl. 12 figs. 19-21, Eo-Triassic, Okuyama, Japan, Nakazawa, K.

†*Limipecten flexiauricularis* spp. nov. p. 466 pl. 61 figs. 9-16, Carboniferous, New South Wales, Campbell, K. S. W.

†*Melegrinella antiqua* spp. nov. p. 104 pl. 29 nos. 5-9b, Raanes peninsula, Ellesmere Island, Arctic Archipelago, Trias, Tozer, E. T.; *M. okayamensis* spp. nov. p. 115 pl. 16 figs. 2-3, Ochiai, West Japan, Iias, Hayami, I. (1).

†*Monotis* (*Entomonotis*) *mukaihatensis* spp. nov. p. 83 pl. 12 figs. 12 a, b, 13 a, b, 14-16, 17 a-c, 18, Triassic Mukaihata, Miwa-cho, Kuga-gun, Yamaguchi Pref., Japan, Hase, A.

†*Newellipecten* (*Fascineswellipecten*) *consonans* and *N. (N.) niobe*, Devonian, Bohemia, Růžička & Prantl (3).

†*Oxytoma kiparisovae* spp. nov. p. 100 pl. 29 nos. 10-13, Eureka, Ellesmere Island, Arctic Archipelago, Trias, Tozer, E. T.

Pinctada galtsoffi, *P. margaritifera* and *P. mazatlanica* conchioline and calcite association in the shell, Grégoire, C.; *P. martensii* in fouling communities, Ago Bay, Japan, Kawahara, T.; *P. martensii* and *P. margaritifera*, relation between shell growth and crystal arrangement of the nacre, Wada, K.; *P. maxima* and *P. martensii* pearl culture, McMichael, D. F. (3); *P. maxima* abundance and characters of pearling beds as a frequency index, Takemura & Sagarra; *P. radiata*, *P. anomoides*, *P. martensii*, *P. shimizuensis*, *P. nigra*, *P. maculata*, *P. capensis*, *P. chemnitzii*, *P. albina*, *P. margaritifera*, *P. mazatlanica* and *P. maxima*, biology, shell structure, muscle impressions, general notes, ecology and distribution, numerous plates and text-figs., Ranson, G.; *P. vulgaris* major molluscan fouler in the Persian Gulf, Stubbings, H. G.

†*Pinctada* (*Eopinctada*) *matsumotoi* subgen. et sp. nov. q.v., Tamura, M. (2).

Pinna atrina japonica larvae identified and studied during growth, Ota, S.; *P. attenuata* relation between shell growth and crystal arrangement of nacre, Wada, K.; *P. nigra*, *P. (Atrina) nigra* and *P. nobilis* conchioline/calcite association in the shell, Grégoire, C.

†*Pinna muikadaniensis* spp. nov. p. 267 pl. 13 figs. 14-17, Eo-Triassic, Gujo, Oe-cho, Japan, Nakazawa, K.

†*Posidonia aranea* spp. nov. p. 102 pl. 28 nos. 13-15, Otto Fiord, Ellesmere Island, Arctic Archipelago, Trias, Tozer, E. T.; *P. subvulgensis* Kiparisova (in litt.) p. 102 pl. 18 figs. 9, 13, 14, Trias, Sikhotealin, USSR, Kiparisova, L. D.

†*Promyalina minuta* spp. nov. p. 265 pl. 13 fig. 10, Eo-Triassic, Oe-cho, Kyoto Prefecture, Japan, Nakazawa, K.

†*Pseudomonotis subtilis* spp. nov. p. 97 pl. 12 figs. 1, 2, Unzha river, Ivanovskaya province, Jurassic, European Russia, Gherasimov, A. P.

Pteria beiliana spp. nov. p. 146 pl. 18 figs. 5-5c, Venado Beach, Canal Zone, Olsson, A. A.; *P. lanciata* ? found in a black coral tree brought up from 165 feet, Lanai, Hawaii, Anon. (18); *P. (Pinctada) martensii* shell and pearl formation, Tsujii, T.; *P. penguin* relation between shell growth and crystal arrangement of nacre, Wada, K.

†*Pteria bösei* spp. nov. p. 64 pl. 17 figs. 17-21, pl. 18 figs. 1, 2, Lower Cretaceous, Tanque Toribio, Sierra de Santa Ana, Coahuila, Mexico, Perkins, B. F.

Vulsella vulsella calcite prisms in shell associated with conchioline, Grégoire, C.

PECTINACEA

Aequipecten (*Pacipecten*) *tumbecensis* subgen. nov. p. 164, pl. 21, figs. 2-2c; NW Peru, Olsson, A. A.

†*Campitoplectes borissaki* spp. nov. p. 116, pl. 26, figs. 1-3; Trosh & Rechitay, Ramenskaya; Jurassic, European Russia, Gherasimov, A. P.; *C. deterrmani* spp. nov. p. 53, pl. 10, figs. 3, 7, 8; Utukok river, northern Alaska, Kukpowruk formation Albian-Cretaceous, Imlay, R. W. (2).

Chlamys (*Mimachlamys*) *gemmulata* in cod's stomach, Foveaux Strait; *C. (M.) taiaroa* cod's stomach, new records for Stewart Island, Smith, E.; *C. nipponensis* composition of extracted fatty oil, Igarashi, Zama & Takama; *C. opercularis* deep water faunal associations, Jacquotte, R.

†*Chlamys* spp. Neogene, Granada Spain, Aguirre, E. de; *C. albina*, *C. zizinae joleaudi*, *C. malvinas* & *C. calaritana* Miocene, Roquebrune, Jaworsky, G.; *C. avazensis* spp. nov. p. 118 pl. 16, figs. 6a-b; Awazu, Soma City Fukushima Pref. NE Japan, Jurassic, Hayami, I. (2); *C. diaphana gemmata* var. nov. p. 145, pl. 1, figs. 6-8; Konkak horizon, Palaeozoic; Beloi river basin Russian Platform, Pavlinova-Ilyina, L. B.; *C. hispidia*, *C. gallienae*, *C. fasciata*, *C. (Aequipecten) pulchella*, & *C. (A.) acuteplicata* hinge line, Pasternak, S. I. (2); *C. ohukae* p. 19, pl. 4, figs. 1a-b, 2a-b, 3-5; Miocene Oido, Motowakuya Miyagi Pref., *C. chinkopensis* p. 21, pl. 4, figs. 6, 7; Tshibetsu-gawa, Chinkopo-toge Shiribeshi Province; *C. daishakensis* p. 23, pl. 4, figs. 8, 9; Daishaka station, Minami-Tsugaru-gun; *C. imanishii* p. 25, pl. 4, figs. 10a-c, 11; Hamada, Yokohama-mura, Kami-Kita-gun, Aomori Pref., *C. tamuras* p. 27, pl. 4, figs. 12a-b, 13-15; Pliocene, Maruyama, Kita-Hiyama-machi, Shiribeshi Province spp. nov. Hokkaido Japan Tertiary, Masuda & Sawada; *C. recticostatus* spp. nov. p. 98, pl. 1, figs. 2, 3; Eocene, Korsun-Shevchenkiivskii, Ukraine, Zelinska, V. O.; *C. rogersi* nom. nov. pro *C. catalaunica*,

Helvetican, Miocene, Els Monjos, Vallès-Penedès, Spain, figs. 1-4; pl. 2, figs. 1, 2; pl. 3, figs. 1, 2; Miocene, Luanda, Angola, Soares, A. F.; *C. tournali* Monaco, Roquebrune-Cap-Martin, Fougereux & Le Calvez.

†*Cyclopecten tochiensis* sp. nov. p. 115 pl. 6 figs. 1-3; Miocene, Tochi Pref. Japan, Kanno S. (2).

†*Entolium orbiculare* & *E. balticum* hinge line, Pasternak, S. I. (2); *E. utukokense* sp. nov. p. 54 pl. 11 figs. 1-3, 5, 6, 8, 9; North side Kigalik river, northern Alaska, Albian Kukupowuk formation Cretaceous, Imlay, R. W. (3).

†*Euchondria techusowiensis* (Koschm.) (in litt.) emend. Nelz.; *E. lenuscostata* (Koschm.) (in litt.) emend. Nelz.; Permian, Urals, stratigraphical list p. 33, Anon. (10).

†*Indopecten amusiiformis* sp. nov. p. 19 pl. 2 figs. 5-7; *I. clignetti asperius* subsp. nov. p. 20 pl. 1 figs. 1-3; pl. 2 figs. 1-4, 8, 9; Oman Peninsula, Arabia Triassic, Hudson & Jeffries.

†*Lima costata* p. 108 pl. 22 fig. 6; Borshev, Ukraine; *L. corobienensis* p. 109 pl. 23 fig. 3; Moskovskaya province, Mnevnik; spp. nov. Jurassic, European Russia, Gherasimov, A. P.; *L. (Acesta) goajiri* sp. nov. p. 6 pl. 1 fig. 1; Tertiary, 10km. SSE of Guatchari, Goajiri Peninsula Colombia, Olsson & Richards; *L. parapunctata* p. 130 pl. 15 figs. 16a, b; 17a-c; *L. subcompressa* p. 130 pl. 16 figs. 1a, b; 2a, b; Kiparisova (in litt.) Jurassic, Vostok, USSR, Petrova, G. T. in Krimholz, G.; *L. trabajensis socolovi* var. nov. p. 99 pl. 1 fig. 1; *L. punctata* sp. nov. p. 100 pl. 1 fig. 5; Eocene Dnipropetrovsk province, Ukraine, Zelinska, V. O.

†*Limatula sabulosa* sp. nov. p. 578 pl. 83 fig. 5; Folkestone Beds, Coxbridge pit, Farnham, Surrey, Casey, R. (4).

†*Limex unshensis* sp. nov. p. 110 pl. 34 fig. 7; Kostromskaya province, R. Unzha, Jurassic, European Russia, Gherasimov, A. P.

†*Lituyapecten* subgen. nov. p. 227 of *Patinopecten* subgenotype *P. (L.) lituyaensis* sp. nov. p. 231 pl. 39 figs. 1, 3; pl. 40 figs. 1-5; pl. 41 fig. 1; pl. 42 figs. 1, 2, 4; pl. 43 figs. 1-4; Cenotaph Island, Lituya Bay, Alaska; *P. (L.) pouloreekensis* sp. nov. p. 228 pl. 35 figs. 1-6; pl. 36 figs. 1, 2, 3, 4, 6, 7; pl. 38 fig. 2; Poul Creek formation, Yakataga Reef; *P. (L.) falorensis* sp. nov. p. 234 pl. 38 figs. 1, 3; pl. 44 figs. 2, 4; pl. 45 figs. 2, 4; pl. 46 figs. 1-4; Blue Lake Humboldt Co., California; Miocene, MacNeil, F. S.

†*Myosidoptera circularis* sp. nov. p. 263 pl. 13 figs. 1-7; Eo-Triassic, Kamiyakuno Station, Yakuno-cho, Japan, Nakazawa, K.; *M. ominensis* sp. nov. p. 208 pl. 13 figs. 10, 11; Omine, W. Japan Triassic, Tokuyama A. (1).

Pacipecten subgen. nov. p. 164 of *Aequipecten* q.v. subgenotype *Aequipecten tumbecensis* (d'Orbigny), Olsson, A. A.

†*Patinopecten (Lituyapecten) lituyaensis* subgen. et sp. nov. q.v., MacNeil, F. S.; *P. (Lituyapecten)* spp. from the Tertiary of Alaska, Miller, D. J.

Pecten on the genus in the "New World," Drucker, D.; *P. hercicus* sex hormones extracted from the ovary, Botticelli, Hisaw & Wotiz; *P. irradians* electron micrographs of visual photoreceptor structures, Miller, W. H.; *P. irradians* spawning and early development, Outten, L. M.; *P. jacobaeus* deep water faunal associations, Jacquotte, R.; *P. jacobaeus* & *P. opercularis* carbohydrate metabolism, Martin, A. W.; *P. m. agellianus* measurement of cytochrome respiratory pigments, Pablo & Tappel; *P. maximus* predation by starfish,

Baird, R. H.; *P. maximus* proteins associated with contraction in "catch" muscle, Rügge, J. C. (1); *P. maximus* tropomyosin and muscle tone, Rügge, J. C. (2); *P. novaezelandiae* in Tasman Bay 1959-60, ecology, economics, environment, collecting and general notes, Choat, J. H.; *P. (Pecten) perulus* sp. nov. p. 158 pl. 20, figs. 3-3c; pl. 21 figs. 3, 3a; Venado Beach, Canal Zone, Olsson, A. A.; *P. sulcicostatus casa* var. nov. p. 31 pl. 1 figs. 1-3, off S.E. coast of Cape Province, South Africa, Bruggen, A. (1); *P. yessoensis* changes in adenine nucleotides of muscle, Arai & Saito; *P. yessoensis* composition of extracted fatty oil, Igarashi, Zama & Takama; *P. yessoensis* adenylic acid from the muscle, Iida, Araki & Murata; *P. (Patinopecten) yessoensis* vitamin B₆ content of extracts, Miyake & Hayashi; *P. yessoensis* absence of succinic dehydrogenase in gill cells, Natochin, Khlebovich & Krestinskaya.

†*Pecten albicans* & *P. naganumanus* Pliocene, Niigata Pref., Japan, geological significance, Noda, H.; *P. arcuatus* in the Cyrena sandstones of SW Armenia, Aslanyan, P. M. (4); *P. bellus* from the Santa Barbara formation, California, Valentine, J. W. (2); *P. (Flabellipecten) duplex*, Tertiary Borchina, Colombia, Olsson & Richards; *P. elini* Zhizh. stratigraphical position in the Trans-Caucasus, Petrashkevich, Grishkevich & Guridov; *P. helveticus* sp. nov. p. 160 pl. 1 figs. 1, 2; Imihubel, Längenberg Bern; Helvetican, Miocene, Eutsch & Steininger; *P. (Entolium) kolymaensis* sp. nov. p. 112 pl. 22 figs. 1-5; Trias, Siberia basin of Kolyma river USSR, Kiparisova, L. D.; *P. mergensis* & *P. orbicularis* "spp. nov." p. 63, Permian Transbaikalia, Russia, Maslennikov, D. F. in Naletov, P. I.; *P. (Patinopecten) sannaensis* sp. nov. p. 107 pl. 1 figs. 1-5, Dogamae Nozawa-mura Japan, Pliocene, Chinzei, K.; *P. sartaganicus* sp. nov. p. 563 pl. 1 figs. 1-4; Konkak horizon, Manghyshlak Russia, Miocene, Andrusov, N. I. (8); *P. (Chlamys) subalternicostatus asymmetricus* var. nov. p. 79 Trias near Wörgl, Austria, Pirkel, H.

Placopecten magellanicus shell morphology in larval and post larval stages, Merrill, A. S. (2); *P. magellanicus* growth and survival of organisms on the shell, Merrill, A. S. (3).

†*Plicatula radiato-tuberculata* sp. nov. p. 102 pl. 1 figs. 6, 7; R. Inguletz, *P. grandis mytiloides* var. nov. p. 102 pl. 2 figs. 6, 7; Eocene, Ukraine, Zelinska, V. O.; *P. vias* p. 54 text-fig. 814; Valanginian; Cuesta de Reinala, Fredes (Castellón de la Plana); *P. roselli* p. 55 text-fig. 815; Maestrichtian, Orri (Lérida) sp. nov. Spain, Cretaceous, Bataller, J. R. (4).

†*Sectipecten grangei* sp. nov. p. 660 pl. 46 f. 4, 6; pl. 47 f. 8-10. Upper Miocene, Mt. Bruce, Tararua, New Zealand; *S. difflusus* (Hutton), *S. wollastoni* (Finlay) & *S. allani* Marwick, redescribed & figured, Boreham, A. U. E.

†*Spondylus gaederopus* pl. 1, Pleistocene, isle of Karpathos, Anapliotis, K. (2); *S. giria* sp. nov. p. 52 text-fig. 813, Aptian Cretaceous, Punta del Alga, Ametlla de Mar (Tarragona) Spain, Bataller, J. R. (4).

†*Streblochondria lata* (Koschm.) (in litt.) emend. Nelz.; Permian, Urals, stratigraphical list p. 33, Anon. (10).

ANOMIACEA

Acesta iwataki sp. nov. Iyo-nada Inland Sea of Japan, pp. 419 (429) f. 3, 4, Habe, T. (10).

Anomia simplex partial metamorphosis, Loosanoff, V. L.; *Anomia*, a freak example, Chase, E. F.

†*Placunopsis nuka* sp. nov. p. 54 pl. 11 figs. 4, 7; Nuka river, northern Alaska, Fortress Mt. formation Albian Cretaceous, Imlay, R. W. (2).

OSTREACEA

Crassostrea angulata muscle fibre structure in the translucent part of the adductor, **Hanson & Lowy**; *C. cucullata* ecology, spawning biology, growth and culture methods in Kenya, **Van Someren & Whitehead**; *C. gigas* studies on bacterial flora and its relation to post-mortem spoilage, **Colwell & Liston**; *C. gigas* in fouling communities, Ago Bay, Japan, **Kawahara, T.**; *C. gigas* in marine fouling communities in Ago Bay, Japan, **Kawahara & Izima**; *C. gigas*, *C. echinata* and *C. nippona* vertical distribution in Japanese waters, **Shinkawa, H.** (1); *C. gigas*, measurement of gill ciliary activity by the "fatty particle" method, habitat correlations, **Shinkawa, H.** (2); *C. gigas*, *C. rivularis*, *C. echinata* and *C. nippona* relation between ciliary activity and sea water concentration, **Shinkawa, H.** (3); *C. gigas* growth and survival in Washington area, **Sparks & Chew**; *C. gryphoides* chemical composition and seasonal variation in weight, **Durue & Bal** (1); *C. gryphoides* observations on shell deposits from an oyster farm at Kelwa, 50 m. N. of Bombay, **Durue & Bal** (2); *C. rhizophorae* recolonization of mangrove roots after tropical rains, **Goodbody, I.**; *C. virginica* reaction to injury by bacteria, **Bang, F. B.**; *C. virginica* hyperthermia as a factor in cytological fixation of the mantle, **Combs, R. M.**; *C. virginica* effect of pesticides on eggs and larvae, **Davis, H. C.**; *C. virginica* rearing larvae, mass culture of phytoplankton as food, **Davis & Ukeles**; *C. virginica* tidal cycle of opening and closing shell, **Fingerman, M.**; *C. virginica* microecological factors of epizootics, **Laird, M.**; *C. virginica* rehabilitation of disease-depleted oyster populations in E. Canada, **Logie, Drinnan & Henderson**; *C. virginica* history of farming in Canada, biology, enemies and competitors, diseases, fishing, cleaning, grading and packing, marketing, storage, oyster industry and public health, **Medcof, J. C.**; *C. virginica* paleosalinity prediction using trace element concentration in oyster shells, **Rucker & Valentine** (1); *C. virginica* salinity response of trace element concentration, **Rucker & Valentine** (2); *C. virginica* from Draper Site shell pits, **Shuster, C. M., Jr.**; *C. virginica*, crystal layer formation in the shell, **Watabe & Wilbur**; *C. virginica* fauna of oyster beds, salinity factors, effect of hurricanes, seasonal succession and physical factors, **Wells, H. W.**

†*Ezogyra alata* sp. nov. p. 133 pl. 31 figs. 1-5; Klyazma river, Moskva region; Jurassic, European Russia, **Gherasimov, A. P.**; *E. tlahuallilensis* sp. nov. p. 42 pl. 2 figs. 2, 3; pl. 3 fig. 8; pl. 4 figs. 1-3; *E. acrombionata* [Kauffman n. sp. in press] p. 42 pl. 1 figs. 1, 2, 8, 9; *E. extenda* sp. nov. p. 43 pl. 1 figs. 18-21, 24, 25, 27-29; *E. robusta* sp. nov. p. 44 pl. 2 figs. 1, 4; pl. 3 fig. 11; Cretaceous, Sierra de Tlahualilo, Durango, Mexico, **Kellum & Shubak**.

Gryphaea gigas morphological characteristics of the blood corpuscles, **Tanaka, Takasugi & Maoka**.

†*Gryphaea* (*Rygepha*) subgen. nov. Vialov p. 115; *G. (R.) sibirica* sp. nov. p. 117 pl. 23 figs. 11, 12; Kolyma river basin, Siberia USSR, **G. (Phygraea) omolonensis** Kiparisova & Vialov sp. nov. p. 117 pl. 22 fig. 11; pl. 23 fig. 2; USSR, Trias, **Kiparisova, L. D.**; *G. kaschgarica* sp. nov. p. 111 pl. 2 figs. 1a, b, 2; Paleogene Kashgaria, Turkestan, USSR, *Gryphaea vialovi* sp. nov. var. nov. *kaschgarica* p. 113 pl. 3 figs. 1, 2a, b; Panonian Kashgaria, Turkestan USSR, **Mirkamalova, S. H.**; *G. nasima* sp. nov. p. 85 pl. 3 figs. 1a, b; pl. 4 fig. 1; Paleogene, Prikarabogazy, Turkmenia SSR, **Dmitriev, A. V.** (1); *G. pitcheri* Morton 1834, and *G. navia* (Hall 1856) Gabb 1861, nomenclatorial study, Cretaceous, **Dmitriev, A. V.** (2).

†*Liostrea* (*Catinula*) *shiraiensis* sp. nov. p. 209 pl. 12 figs. 8-12; Shiraiwa and Hirabazaka, W. Japan, Triassic, **Tokuyama, A.** (1).

Ostrea circumpecta, *O. densamellosa* and *O. rivularis* vertical distribution in Japanese waters, **Shinkawa, H.** (1); *O. densamellosa* and *O. circumpecta* relation between ciliary activity and seawater concentration, **Shinkawa, H.** (3); *O. edulis* used as food in Gallo-Roman times, Saint-Félix-Lauragais, France, **Astre, G.** (3); *O. edulis* conchioline/calcite association in the shell, **Grégoire, C.**; *O. edulis* microecological factors of epizootics, **Laird, M.**; *O. edulis* observations on mortality causes in the Tal-y-foei oysterage, **Walne, P. R.** (2); *O. edulis* application of UV light sterilization to oyster purification, **Wood, P. C.**; *O. (Crassostrea) gigas* vitamin B₂ content of extracts, **Miyake & Hayashi**; *O. gigas* xanthine dehydrogenase study, **Tsuzuki, K.**; *O. virginica*, *O. circumpecta*, *O. gigas* and *O. edulis* glycogen storage, **Martin, A. W.**

†*Ostrea curva* p. 126 pl. 33 fig. 4; Moakva river; *O. limaciforme* p. 127 pl. 27 figs. 2-5; Mikhaylova, Ryazanskaya Province; Jurassic, European Russia spp. nov. **Gherasimov, A. P.**; *O. digitalina* Miocene, Roquebrune, **Laworsky, G.**; *O. (Pycnodonte) galunensis aquaclarensis*, Tertiary, Guatchari, Colombia, **Olsson & Richards**; *Ostrea gigas* excavated in the West Mouth of the Great Cave at Niah apparently used as a blade tool in the Paleolithic, **Harrison, T.**; *O. offreti* Kilian 1889, from the circum-Mediterranean Miocene, **Lecointre & Ranson**; *O. paleodensamellosa* Nomura 1938, holotype is *Monia macrochisma* (Dehayes), **Oyama, K.** (5).

†*Ostreacea* origin from Permian Pseudomonotids? **Newell, N. D.**

†*Rygepha* sect. nov. [subgen. nov.] p. 115 of *Gryphaea* q.v., **Kiparisova, L. D.**

TRIGONIACEA

†*Heterotrigonia subovalis* conchometry and general shell study, **Nakano, M.** (2).

†*Laevitrigonia curta* sp. nov. p. 97 pl. 14 figs. 1-3; Ngirito Stream SE Tanganyika, Jurassic, **Aitken, W. G.**

†*Megatrigonia* (*Rutitrigonia*) *turikirae* p. 90 pl. 11 figs. 3a-c; pl. 12 figs. 1-2; Turikira ridge; *M. (R.) noesae* p. 92 pl. 12 figs. 3a-c; Noesae Stream near Kigombo; *M. (R.) nyangensis* p. 94 pl. 13 figs. 1a-c, 2a-c; *M. (R.) kigombona* p. 95, pl. 13, figs. 3a-c; Mto Nyangi, Neocomian, Lower Aptian spp. nov. SE Tanganyika, **Aitken, W. G.**

†*Opisthotrigonia curvata* sp. nov. p. 98 pl. 14 figs. 4-8; Nambango Stream, SE Tanganyika, Tithonian, **Aitken, W. G.**

†*Pacitrigonia nanutarraensis* sp. nov. Nanutarra formation Western Australia, Cretaceous pp. 10 21 pl. 3 f. 1, **Cox, L. R.** (1).

†*Pseudomorphorella* gen. nov. p. 85, of Trigoninae type species *P. savelievi* sp. nov. p. 85, Oxfordian, W. Turkmen. (= *Saveliev's Myophorellinae* gen. and sp. nov. ? 1960), **Nakano, M.** (1).

†*Pterotrigonia australiensis* sp. nov. Nanutarra formation Western Australia, Cretaceous pp. 10 22 pl. 3 f. 2-5, **Cox, L. R.** (1); *P. mantelli* sp. nov. p. 577 pl. 80 figs. 8a, b; text-fig. 8b-d; Sandgate Beds, Parham Park, Sussex, **Casey, R.** (4); *P. (Rinetrigonia) yeharai* sp. nov. p. 95 pl. 13 figs. 1-2; Enokuchi Goshonoura-jima, Amakusa-gun, Higo Prov., Kumamoto Pref., Japan Cretaceous, **Nakano & Numano**.

†*Steinmannella* (*Yeharella*) *ainuana* figs., general note, Mikasa-city, Central Hokkaido; ontogeny and abundance, Cretaceous, **Nakano, M.** (3).

Trigonia lamarekii aragonite/conchioline association in the shell, Grégoire, G.

†*Trigonia aliformis kopeldagensis* var. nov. p. 94 pl. 1 fig. 3; Senomanian Cretaceous, Kapet-Dag Turkmenia SSR, Aliiev, M. M. & R. A. (1); (*Clavotrigonia koprenensis* sp. nov. p. 55 pl. 3 figs. 9, 10; Jurassic, Koprini, Yaroslavlskaya province, European Russia, Gherasimov, P. A.; (*Trigonia tanganyicensis* p. 64 pl. 7 figs. 1, 2; (*Indotrigonia mandauae* p. 72 pl. 7 figs. 3-5; pl. 8 fig. 1; Mandawa Stream, Kimmeridgian; *T. (I.) africana* p. 75 pl. 8 figs. 2-7; pl. 9 figs. 1-2; Nambango Stream, *T. (I.) beyschlagi* p. 80 pl. 10 figs. 2-4; Nalwehe Stream; *T. (I.) robusta* p. 82 pl. 9 figs. 3, 4; Mkomangoni Stream; *T. (I.) v-striata* p. 84 pl. 11 figs. 1, 2; Nambango Stream; Tithonian spp. nov. SE Tanganyika, Aitken, W. G.

†*Trigonodus tenuidentatus* sp. nov. p. 27 pl. 2 figs. 19-21, Ramon, S. Israel Trias, Lerman, A. (1).

UNIONACEA

Anodonta anatina tobacco mosaic virus inhibitors, Llimasset, P.; *A. cataraeta* structure of ciliated epithelia, Gibbons, I. R. (1); *A. cataraeta* relationship between fine structure and direction of beat in gill cilia, Gibbons, I. R. (2); *A. cygnea* localization of the influence of K ions, and periodic activity rhythms, Salánki, J. (1); *A. cygnea* afferentation in the regulation of the slow rhythm in periodic activity Salánki, J. (2); *A. grandis* population study, Murray, H. D. (1); *A. piscinalis* cellular respiration of muscles, Mattisson, A. G. M. (1); *A. piscinalis* flavin content of foot muscles, Mattisson, A. G. M. (2); *A. piscinalis* conchometry in Lake Östensjö vann, Skland, J.

†*Anodonta n. sp.* (cf. *A. subjaponensis*) p. 113, Onnenai formation Hokkaido, Imanishi, S.; *A. martinsonii* sp. nov. p. 38 pl. 6 figs. 6-8; text-fig. 3; Miocene, Cisbaikalia, Russia, Popova, S. M.; *A. subpiscinalis* p. 10, *A. pseudostriata* p. 11 "sp. nov." Miocene, Buryat ASSR, Naletov, P. I.

†*Anunio* gen. nov. p. 56, Unionidae, genotype *A. ananjeri* sp. nov. p. 56 pl. 4 f. 1-5, text-f. 1, river Kii and river Sert, Western Siberia. Aptian-Albian, Cretaceous, Lebedev, I. V.

Aspatharia hartmanni guillaini first record for Lower Jubaland, Somalia, biological significance, Maff, M.

Callonia duprei glochidia in S. America, Bonetto, A. A. (2).

†*Carbonicola carbonaria* Permo-Carboniferous, Austria, Flügel, E.; *C. provera* sp. nov. p. 25 pl. A figs. 16-22; pl. B figs. 24-28; text-fig. 3; Mambourg, Belgium, Carboniferous, Pastels, A. (2); *C. williereae* p. 130 pl. 12 figs. 1, 2, 4-9; Cheratte Argenteau; *C. antiana* p. 132 pl. 12 figs. 10-18; Sondage de Soumagne; *C. circinata* p. 142 pl. 20 figs. 1-13; Strepy-Bracquegnies; spp. nov. Carboniferous, Belgium, Pastels, A. (1).

†*Cardinia hofmanni* Böckh and Vadasz figs. 1-3; Nagybánya Valley, Rhaetic, Lias, Hungary, general notes, Nagy, E.; *C. subtrigona* Kiparisova (in litt.) p. 86 pl. 10 fig. 13; *C. indigirkaensis* Kiparisova (in litt.) p. 86 pl. 10 fig. 20; Trias, Indigirki river USSR, Kiparisova, L. D.

†Cardinidae composition and systematic position of the family discussed, Cox, L. R. (3).

†"Corbicellopsis" nanutarraensis sp. nov. Nanutarra formation Western Australia, Cretaceous pp. 10 24 pl. 3 f. 10a, b, Cox, L. R. (1).

Crenodonta costata population study, Murray, H. D. (1).

†*Cristaria languilata* p. 11 "sp. nov." Miocene, Buryat, ASSR, Naletov, P. I.

Cucumerunio novaeollandiae pearl formation, McMichael, D. F. (3).

†*Cuneopsis sculpturata* p. 29 pl. 5 figs. 1-4; *C. lanceolata* p. 30 pl. 5 figs. 5-7; *C. hajanensis* p. 31 pl. 5 figs. 8, 9; spp. nov. Jurassic, western Transbaikalia Russia, Martinson & Hong.

†*Dicercocardium pannonicum* sp. nov. p. 180 pl. 37 figs. 1-7; Norian Trias, Epöl. Babáberg, Gerece Mts., Hungary, Oravecz, J.

Diplodon species, ecology and distribution, Argentina, Castellanos, Z. A. de (2); *D. frenzeli*, *D. huapensis*, *D. atratus*, *D. multistriatus*, *D. vicarius*, *D. similimus*, *D. wagnerianus*, *D. delodontus*, *D. expansus*, *D. yaguaronis*, *D. paulista*, *D. decipiens*, *D. trivialis*, *D. hartwrighti*, *D. piceus*, *D. ellipticus anianus*, *D. mogymirim*, *D. charruanus*, *D. parallelopipedon* and *D. fontaineanus* with parasitic glochidia; *D. suavidicus*, *D. garbei*, *D. charruanus*, *D. hildae*, *D. hasemani*, *D. asuncionis*, *D. burroughianus*, *D. paramensis*, *D. subquadratus*, *D. variabilis* and *D. bulloides* with non-parasitic glochidia, Paraná River, Argentina, Bonetto, A. A. (1); *D. rotundus* and *D. solidulus* glochidia from Central and South America, Bonetto, A. A. (3).

Elliptio complanatus (Dillwyn), Latchford's ecological notes, La Rocque, A. (4); *E. dilatatus* (Raf.) Latchford's notes, La Rocque, A. (5); *E. (Nephronaias) scamnatus* glochidia from Central and South America, Bonetto, A. A. (3).

Etheriidae, a revision, Pain & Woodward.

Hyriinae distribution in Argentina, Bonetto, A. A. (4).

Hyriopsis schlegelii (Martens) mantle section fig. (i.e. shell and pearl formation), Tsujii, T.

†*Hyriopsis triangula* sp. nov. p. 36 pl. 6 figs. 1, 2; text-fig. 1; Miocene, Cisbaikalia, Russia, Popova, S. M.

†*Icanotia pennula* p. 583 pl. 80 fig. 3; text-figs. 9d, 11c; Atherfield Clay, Sandown; *I. silvica* p. 583 text-fig. 9e, Upper Greensand Blackdown, Devon spp. nov., Casey, R. (4).

†Icanotiidae fam. nov. p. 581 for *Icanotia* Stoliczka and *Scittila* gen. nov. q.v. allied to Tancredidae, Casey, R. (4).

†*Kija* gen. nov. p. 73, no family given; genotype: *K. tjazhinensis* sp. nov. p. 74 pl. 6 f. 1, text-f. 7; *K. kibelenensis* p. 75 pl. 6 f. 2-4 text-f. 8; *K. miroschnichenkii* p. 76 pl. 6 f. 10 text-f. 9; all from Tjashin, Upper Jurassic; *K. elongata* p. 77 pl. 6 f. 5-7, text-f. 10, Murtinsk region, Middle Jurassic; *K. elliptica* p. 78 pl. 6 f. 8, 9, Kibetensk and Nazarovsk region, Upper Jurassic; spp. nov. Western Siberia, Lebedev, I. V.

Lamellidens corrianus culture of epithelial cells from the digestive diverticula, Karnik & Kamat; *L. marginalis* influence of sex and size on blood composition, Padmanabhanaidu & Ramamurthy; *L. marginalis* effect of acclimatization to high temperature on blood chloride, free amino acids and osmotic pressure, Pampapathi Rao & Ramachandra.

†*Lamprotrula sibirica* sp. nov. p. 35 pl. 6 figs. 9, 10; Miocene, Cisbaikalia Russia, Popova, S. M.

Lampsilis ovata ventricosa glochidia, fish lures, cover photo, Welsh, J. H. (2).

†*Lepidodema rammelmeieriae* p. 11 "sp. nov." Miocene, Buryat ASSR, Naletov, P. I.

Ligumia subrostrata population study, Murray, H. D. (1).

Limnoscapha tenera sp. nov. p. 173, Moldavia; *L. aff. crejii* Wenz *posticodilatata* var. nov. p. 237 pl. 31 fig. 2; pl. 32 fig. 2; Reni, Ukraine; *L. kovalovskii* sp. nov. p. 237 pl. 31 fig. 1; pl. 32 fig. 1; Reni, Ukraine, USSR, Bogachev, V. V. (2).

†*Limnoscapha maxima* p. 11 "sp. nov." Miocene, Buryat ASSR, Naletov, P. I.

†*Margaritana elongata* p. 11 "sp. nov." Miocene, Buryat ASSR, Naletov, P. I.

†*Megalodus böckhi gerecensis* p. 47 (106), text-figs. 27a, b, c; Nyergestűfalu, Kecskék; *M. complanatus desioi* p. 48 (107), Szénaberg, Vértesszőlő; subsp. nov. Trias, Gerecse Mts., Hungary, Végh-Neubrandt, E.

Mutela bourguignati, developmental history, Africa, Fryer, G.

Mutelidae, distribution in Argentina, Bonetto, A. A. (4).

†*Myophoria inaequicostata* Trias, Val Grana, Italy, Michard, A.; *M. goldfussi lipiensis* subsp. nov. p. 179 pl. 27 figs. 7, 8, 11-20; Lipis, Pahang Prov., Malaya, Trias, Tokuyama, A. (2); *M. mexicana* sp. nov. p. 12 pl. 2 figs. 1-10; Santa Clara; Sonora, Mexico, Triassic, Alencaster de Cserna, G.; *M. multicostrata* sp. nov. p. 20 pl. 2, figs. 1-6; Ramon, S. Israel, Lerman, A. (1); *M. negevensis* nom. nov. p. 400, pro *M. multicostrata* Lerman 1960 non Körner 1937, Lerman, A. (2).

†*Myophorignonia salasi* sp. nov. p. 17 pl. 3 figs. 6-9; El Salto, San Marcial, Sonora, Mexico, Trias, Alencaster de Cserna, G.

†*Naiaidites alatus* p. 243 (ex W. B. Wright MS.) pl. xxx figs. 1-5, 11; text-fig. 31; Pennine Coalfields; *N. melvillei* p. 247 pl. xxx figs. 15, 16; North Staffordshire; *N. angustus* p. 248 pl. xxx figs. 6-10, 12-14; text-fig. 4; Lancashire; *N. hindi* p. 254 pl. xxx figs. 17-19; North Staffordshire; spp. nov. Carboniferous, Treman & Weir; *N. obesus* conchometry, Carboniferous, Fife, Bennison, G. M.; *N. stockmanni* sp. nov. p. 122 pl. 6 figs. 1-12; Hergenrath Hammerbach valley, Belgium, Carboniferous, Pastels, A. (1).

†*Najadites krasnojarskiensis* sp. nov. p. 63 pl. 5 f. 15 text-f. 4, Yenisey, Krasnojarsk, Western Siberia, Lower Jurassic, Lebedev, I. V.

†*Nidarica* gen. nov. p. 335, Cardiniidae genotype *Cardinia slatteryi* Wilson & Crick, Middle Lias, England, pl. 14 figs. 11-13, Cox, L. R. (3).

†*Pachycardiidae* fam. nov. p. 331 Unionacea for *Unionites* Wissmann *Trigonodus* Alberti and *Kidodia* Cox, Cox, L. R. (3).

†*Paramegalodus hungaricus* sp. nov. p. 59 (112) text-figs. 41a-c; *P. forma nova* p. 60 (112) text-figs. 42a-b; *P. vighi* p. 61 (113) text figs. 43a-b; Kecskék, Nyergestűfalu; *P. triangulatus* p. 62 (113); text-figs. 44a-c; Gerecseberg, Süttö spp. nov. Trias, Gerecse Mts., Hungary, Végh-Neubrandt, E.

Pazyodon alatus glochidia in S. America, Bonetto, A. A. (3).

†*Protovirgus jaenschi* sp. nov. p. 145 pl. 2 figs. 3, 4; Triassic, Leigh Creek Basin, *P. coalsi* sp. nov. p. 146 pl. 2, fig. 6; Neocomian sandstones, Blythesdale group Cretaceous, Western Spur 3 miles S. of Village Well, S. Australia, Ludbrook, N. H. (1).

†*Pseudocardinia* nom. nov. p. 337 pro *Cardiniopsis* Tornquist 1898 non Stanton 1895; genotype *Cardiniopsis jurensis* Tornquist, Middle Jurassic Argentina, Cox, L. R. (3); *Pseudocardinia longa* p. 119 pl. 50 f. 13-15; *P. angulata* p. 120 pl. 50 f. 1, 2; *P. elliptica* p. 120 pl. 50

f. 6-8; *P. ventricosa* p. 121 pl. 50 f. 11, 12; *P. rotunda* p. 122 pl. 50 f. 17-19; *P. lacustris* p. 122 pl. 50 f. 16; *P. magna* p. 123 pl. 50 f. 9, 10; *P. carinatoides* p. 124 pl. 50 f. 3; spp. nov. Kazakhstan, U.S.S.R. Lower-Middle Jurassic, Kolesnikov & Spasskaya.

Pseudomulleria Anthony 1907, raised to generic rank, Pain & Woodward.

Rochanaia gutmansii de Morretes 1941, considered synonymous with *Barlettia stefanensis* (Moricand), Pain & Woodward.

†*Schistodesmus xinyiensi* sp. nov. pp. 84, 88; pl. 3 figs. 6, 7; Upper Pleistocene, 2-5 miles E of Wa Yao Che Zhan, Xin-Yi, Kiangsu Province, N. China, Wang, S.

†*Sciitilla* gen. nov. p. 583 of Icanotidae fam. nov. q.v. genotype *S. nasuta* sp. nov. p. 583, pl. 80 figs. 1, 2; text-figs. 9b, c; Crakers of Atherfield, Isle of Wight, L. Aptian, Casey, R. (4).

†*Sibireconcha* gen. nov. p. 69, no family given, genotype: *S. lankoviensis* sp. nov. p. 70 pl. 6 f. 12; *S. jenisejensis* p. 71 pl. 5 f. 12-14 text-f. 6; *S. bogdanovichii* p. 71 pl. 6 f. 11; spp. nov. Yenisey, Western Siberia, Middle Jurassic. Genus also includes *S. anodontoides* (Tschernyshev) previously placed in *Ferganconcha* Tschern, Lebedev, I. V.

Spathopsis species of West Africa, figs. and graphs, Daget, J. (1); *S. rubens* relict fauna of the Bandiagara plateau, Daget, J. (2).

†*Tancredia kurupana* sp. nov. p. 43 pl. 3 figs. 19, 21-23, 25, 26; Kukupwuk formation, Albian Cretaceous, Kukupwuk river, Northern Alaska, Imlay, R. W. (2).

Tutuella sibirensis p. 66 pl. 5 f. 1; *T. trapetzoidalis* p. 66 pl. 6 f. 14; spp. nov. Middle Jurassic, Yenisey, Western Siberia, Lebedev, I. V.

Unio crassus succinic dehydrogenase in the mitochondria of the gill cells, Natchin, Khlebovich & Krestinskaya; *U. inostranzewi* sp. nov. p. 174 pl. 35 figs. 1-7; Chitinskaya, *U. acutus* Cobaleacu (= olim *Unio amitus* n. sp. mihl) = synonym *U. sturdae* Cob.; *U. prigorovskii* p. 179, *U. mugodjaricus* p. 180 pl. 34 figs. 5-6; Kazakhstan; *U. oriensis* p. 181 pl. 33 figs. 3-4; Ori River Orak; *U. janachini* p. 182 pl. 34 figs. 1-2; Orak-Khalilovo region; *U. (Cuneopsis) indricorum* p. 183 pl. 38 figs. 1-3; Lake Chelkar, Ozero; *U. turgaicus* p. 185; *U. praevallianus* p. 185; *U. (Limnium) hybrida* p. 189 pl. 26 figs. 1-3; Kama, Novosibirsk; *U. slobodzeanus* p. 206 pl. 12 figs. 1-8; Slobodzeys, Moldavia; *U. comes* p. 208 pl. 13 figs. 5-8; Brinza Moldavia; *U. mikhailevskii* p. 208 pl. 37 figs. 1-4; Kazakhstan region; *U. filiferus* p. 209 pl. 37 figs. 5-9; Rabochiy region; *U. sinzovi* p. 210 pl. 37a fig. 1-9; Slobodzeys Moldavia; *U. crispiculatus* p. 216 pl. 14 figs. 4-5; Kichlaha, Moldavia; spp. nov.; *U. sturi caudata* var. nov. p. 223 pl. 23 figs. 2-4; Tamasaneky; *U. postumus* p. 224 pl. 24 fig. 1; Pliocene Tiraspol; *U. epigonus* p. 225 pl. 24 figs. 2-3; Brinza Moldavia; *U. incurvus* p. 225 pl. 24 fig. 1; Brinza spp. nov.; *U. flabelliformis* G. Mikh. in lit. (nom. nud.) p. 228 pl. 27 figs. 1-8; pl. 29 figs. 1-4; pl. 30 figs. 1-3; Slobodzeys; *U. f. levata* var. nov. p. 229 pl. 29 figs. 3-4; Rezina, Moldavia; *U. biarmicus* p. 231 pl. 25, fig. 1; Kama; *U. carinato-plicatus* p. 231, pl. 25, figs. 7-9; pl. 26 figs. 7-10; Menzelinsk; *U. tertius* p. 232 pl. 26 figs. 11-12; pl. 25 figs. 2-3; Kama; *U. serrato-radiatus* p. 232 pl. 25 fig. 10; Kama, Novosibirsk spp. nov. U.S.S.R., Bogachev, V. V. (2); *U. philippii* Williamson 1836 (type-sp. of *Anthracoaula* Pruvost 1930) specific name in this binomen placed on the Official List, Opinion 595; *U. pictorum* photo., Xantener Altheim,

Mogel, H. (2); *U. pictorum* presence of Mn²⁺ in the soft tissues, but not in the shell of populations from Lake Maggiore; Ravera & Vido; *U. rectus* aragonite/concholine association in the shell, Grégoire, C.; *U. tumidus* and *U. crassus* thermostability of spermatozooids, Swinkin, V. B.; "*Unio*" *valdensis* Mantell taxonomic position (now placed in Margaritiferidae) and geographical distribution, Mongin, D. (4).

†*Unio batavus orientalis* subsp. nov. p. 1,425. Shutnovas, Chauda-Baku age; *U. b. sokolovi* subsp. nov. p. 1,427 [spelt *sokolovi* p. 1,425] Tiraspol, Kolkotova ravine; Quaternary, Dnestr terraces Russia [mentioned in text, not described.], Ivanova & Popov; *U. biveri* hinge line, Cretaceous, Montplaisir, Thézan (Aude), Freytag, P.; *U. khomentovskii* p. 47 pl. 1 f. 1-7; *U. jensei* p. 48 pl. 1 f. 1, 2; *U. barabanovskii* p. 49 pl. 1 f. 3, 4; *U. kubekoviensis* p. 52 pl. 2 f. 6, 7; all from Yenisey river, Jurassic; *U. golovae* p. 49 pl. 1 f. 5-8, Neocomian; *U. chulymensis* p. 50 pl. 2 f. 1-5, Jurassic; *U. ruginosus* p. 51 pl. 1 f. 9, Neocomian; all from Bolshoi Chernoi river; *U. urjupiensis* p. 54 pl. 2 f. 8-11 Neocomian; Urjup river; *U. tyjensis* p. 54 pl. 1 f. 10; *U. kemensis* p. 55, pl. 3 f. 3; Kemi river, Cretaceous; spp. nov. Western Siberia, Lebedev, I. V.; *U. martynovae* p. 32 text-fig. 1; *U. bainzurchensis* p. 33 pl. 5 figs. 10, 11; spp. nov. Jurassic, Transbaikalia, Russia, Martinson & Hong; *U. praenovorosicus* sp. nov. p. 560, Konkak horizon, Miocene; Khanga-baba, Buriya, Russia, Andrusov, N. I. (8); *U. rhomboideus* Schröt. = *littoralis* Cuv. and *U. reguini*, Pleistocene, l'Hers, Haute-Garonne, France, Astre, G. (2); *U. shensiensis* p. 168, 177 pl. 1 figs. 5, 6a; Triassic, Yuanliuhwan, Yungping Yenchuan, Shensi; *U. anni* p. 169, 177 pl. 1 fig. 4; text-fig. 2; Jurassic, Heisuisu, Huluhu, Fushien Shensi China spp. nov., Chow, M. M.; *U. springfieldensis* sp. nov. p. 145 pl. 2 figs. 1-2; small central mesa, Springfield Basin, Cudla Mudla 13 miles W of Cradock; *U. eyrensis* p. 141 re-described pl. 1 figs. 1-6 pl. 2 figs. 5, Triassic, S. Australia, Ludbrook, N. H. (1); *U. triangularis* sp. nov. p. 302 pl. 3 figs. 10-13; Berezina and Ivānestii-Not (Cetatea-Albă), Dacian; *U. sarmaticus* sp. nov. p. 219 pl. 2 figs. 6-8; Sarmatian, Miocene; Chitcani Căsanii-Vechi and Sălcuța, Camurza Valley (Tighina) Bessarabia, Roumania, Macarovici, N.; *U. ummulatus*, *U. pseudodirostris*, *U. semiostris*, *U. shadini*, *U. vestitoides*, *U. (Dysnomia) salebrosa* p. 11; *U. (Nodularia) subdactylus*, *U. (N.) firmusoides*, *U. submaetrafensis* p. 12 "spp. nov." Miocene; Baikal region ASSR, Naletov, P. I.

Unionites tetralasmus population study, Murray, H. D. (1).

†*Unionia* Pöhlh 1880, founded on 2 species from the German Lettenkohle, *U. leuckarti* and *U. maritima* Pöhlh, now considered to be synonymous respectively with *Venulites* "donacinus" Schlotheim and "*Anodonta*" *lettica* Quenstedt. *U. leuckarti* here selected as type species of Pöhlh's nominal genus, Cox, L. R. (3).

Unionidae parasitic on fish in Lake Ladoga, Barysheva & Bauer; Of Ottawa Co., Michigan, lists, Heard, W. H. (1); Population study of Potter Lake, Kansas University, Murray, H. D. (1); Of Fishery Bay, South Bass Island, Lake Erie (maps and tables), Stansbery, D. H.

†*Unionites* Wiessmann in Münster 1841, should be revived to replace its junior subjective synonym *Anoplophora* Alberti 1864, systematic position discussed, provisionally placed in Pachycardiidae, Cox, L. R. (3).

ASTARTACEA

Astarte borealis cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshott, K.

†*Astarte baraconiensis* sp. nov. p. 193 pl. 12 fig. 10; Baraconian Jurassic; Georgia Russia, Khimshiashvili, N. G.; *A. ignekensis* sp. nov. p. 42 pl. 3 figs. 4-6, 9-12; Marsh Creek, Northern Alaska, Albian Cretaceous, Imlay, R. W. (2); *A. kickii* "var. nov." p. 59, pl. 27 figs. 4a, b; 5a, b; 6; Tertiary, Khadumakii horizon; Central Caucasus U.S.S.R., Volkova, N. S.; *A. (Nicanella) mchachi* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10 27 pl. 4 f. 8a, b, 9, 10, Cox, L. R. (1); *A. rouillieri* p. 61 pl. 4 figs. 23-25; Moskva Province, Mnevnik, Moskva province; *A. gibba* p. 64 pl. 4 figs. 27-30; Bryansk Province, Fokina, spp. nov. Jurassic European Russia, Gherasimov, A. P.

†*Astartella gigantea* sp. nov. p. 160 text-fig. 2; Early Permian, Bashkirskaya Kazakhstan, Nel'zina, R. E.

Astartidae evolution from the Oligocene to the present day, Hinsch, W.

Crassinella ecuadoriana p. 182 pl. 25 figs. 6-6e; Puerto Callo, Ecuador; *C. adamsi* p. 183 pl. 25 figs. 3-3c; Punta Blanca, Ecuador; spp. nov., Olsson, A. A.

†*Eriophyla playfordi* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10 27 pl. 5 f. 1-4, Cox, L. R. (1).

Halodakra gen. nov. p. 319 ? Astartidae genotype ? *Circe subtrigona* Carpenter p. 319 pl. 27 figs. 1-1c; Mazatlan, Mexico, Olsson, A. A.

†*Medirao sulcatum* sp. nov. p. 580 Crackers of Atherfield, Isle of Wight, L. Greensand, Casey, R. (4).

†*Oriocrassatella queenslandica* sp. nov. p. 126 pl. 16 figs. 3-10; text-fig. 2 Permian, Orion Creek, E. Australia, Dickens, J. M. (1).

†*Pachythaerus tealli* sp. nov. p. 579 pl. 80 figs. 6, 7; Lower Greensand, Potton, Bedfordshire, Casey, R. (4).

†*Scendia* gen. nov. p. 579 of Crassatellidae genotype *Crassatella saxoni* Pictet & Roux 1847, Albian France, Cretaceous, Seend, Casey, R. (4).

CARDITACEA

Byssomera subgen. nov. p. 189 of *Carditamera* q.v. subgenotype *Cardita affinis* Sowerby, Olsson, A. A.

Cardita (Strophocardia) megastrophia subgen. nov. p. 187 pl. 26 figs. 5, 6a; Manglaralto, Ecuador; *C. (Pleuromeris) guanica* sp. nov. p. 188 pl. 25 fig. 8; Guanico, Panama, Olsson, A. A.

†*Cardita (Venericardia) ameliae maghrebianae* var. nov. p. 59 pl. 5 figs. 15-25; Maestrichtian, Cretaceous; Mekala and Gannour, Morocco, Salvan, H.; *C. (Venericardia) inexplorata* sp. nov. p. 30 pl. 4 figs. 1-3; Eocene, Southern Ukraine, Korobkov, I. A.; *C. (Megacardia) jouanneti* Miocene, general study, Cabrières-d'Ayguès, Mongin, D. (2); *C. planicosta* fig. Tertiary, mouth of the West-Scheldt, Moraal, J. M. (1); *C. scalaris*, fig., Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

Carditamera (Byssomera) affinis subgen. nov. p. 189 pl. 26 figs. 3-3d; Manta, Ecuador, Olsson, A. A.

†*Fenestricardita* gen. nov. p. 580, of Carditidae genotype *Venus fenestrata* Forbes 1845, L. Aptian, S.E. England, Casey, R. (4).

†*Hyrcania philippsoni* development, Caspian Sea and Asia Minor, Neogene, Bogachev, V. V. (1).

†*Palaeocardita trapezoidalis leesi* subsp. nov. p. 31 text-fig. 10b; Triassic Oman Peninsula, Arabia, Hudson & Jefferies.

†*Pseudocardita bukovskii*, *P. phrygica*, *P. laodicensis*, *P. philippsoni*, *P. denislensis* and *P. chamaeformis* development, Caspian and Asia Minor, Neogene, Bogachev, V. V. (1).

Strophocardia subgen. nov. p. 187 of *Cardita* q.v. subgenotype *Cardita megastrophia* (Gray), Olsson, A. A.

†*Trapezicardita* gen. nov. p. 581 of *Carditidae* genotype *Cypriocardia squamosa* Keeping 1883, Aptian, England, Casey, R. (4).

†*Trapezium microsolen* sp. nov. p. 70 pl. 19 figs. 11-13; Comanchean Cretaceous, Tarrant Co., Texas, Perkins, B. F.

Venericardia pygmaea nom. nov. p. 34 pro *Cardita abbreviata* Sowerby 1903 non Conrad, Japan, [published after preparation of the manuscript of this work in Illust. Cat. Jap. Shells No. 13, p. 86, 1951 Kuroda & Habe], Kuroda & Habe.

†*Venericardia* (*Cyclocardia*) *comoriensis* sp. nov. p. 110 pl. 1 figs. 9-11; Ken'yoshi Nagawa-machi Japan, Pliocene, Chinzel, K.; *V. nautiensis donalaensis* subsp. nov. p. 83, pl. 1 figs. 1-3; Coniacian Bombe, Senonian; *V. n. d. sub-barroneti* var. nov. p. 86 pl. 1 fig. 4; Balangi Senonian; Cameroons, Cretaceous, Frenzel, S.

†*Venericard hornii* subsp. Upper Eocene, Uribá, Colombia, Olsson & Richards.

SPHAERIACEA

†*Acyrena* gen. nov. p. 60, Cyrenidae, genotype *A. jenissejensis* sp. nov. p. 61 pl. 3 f. 6-8 text-f. 2; *A. busimensis* p. 61 pl. 3 f. 11-14; both from Yenisey; *A. murtinensis* p. 62 pl. 3 f. 9 Tatarsk Sukhobuzimsk region; *A. tetragonalis* p. 63 pl. 3 f. 10 text-f. 3, Nikolai Sharshovsk region; spp. nov. Middle Jurassic, Western Siberia, Lebedev, I. V.

Byssanodonta, on the genus, *B. paranensis* Orb. figd., Klappenbach, M. A. (3).

†*Clessinia vexatilis*, *C. intermedia*, *C. polejaevi* and *C. uvensis* "spp. nov." [in a table] p. 372, Miocene, Caspian region, Russia, Andrusov, N. I. (5).

Corbicula fluminea seasonal variations in the benthic fauna of the San Joaquin river estuary, California, Aldrich, F. A.; *C. fluminea* (Müll.) in the Tennessee River. Map, figs., Sinclair & Ingram; *C. japonica* shell and pearl formation, Tsujii, T.; *C. leana* vitamin B₁₂ content of extracts, Miyake & Hayashi; *C. limosa*, figs., shell structure, biometrics, histology, reproduction, ecology and geographical distribution, Barabbar, B. C.

†*Corbicula fluminalis* figs., Zealand beaches, Holland, Moraal, J. M. (2).

†*Cyrena elongata* "spp. nov." p. 5, Jurassic, Buryat ASSR, Naletov, P. I.; *C. kemchugensis* p. 58 pl. 4 f. 9 Bolshoi Kemchug; *C. kokinensis* p. 58 pl. 4 f. 8, Krasnoyarsk; spp. nov. Middle Jurassic, Western Siberia, Lebedev, I. V.; *C. (?) yenchuanensis* sp. nov. pp. 170, 178 pl. 1 figs. 6, 8a; Triassic, Yenchang formation, Yuanliuhuan Yungping, Yenchuan Shensi China, Chow, M. M.

Eupera, on the genus, *E. platensis* Daello-Jurado; figd., Klappenbach, M. A. (3).

Minipium japonicum gen. et sp. nov. Ago Bay, Honshu, pp. 420 (429), f. 5, 6, Habe, T. (10).

Psidium, systematics of the genus and relative bibliography, Boettger, C. R.; *Psidium* bottom fauna, in Parvin Lake, Colorado, Buscemi, P. A.; *Psidium* species living in Spain, outline figures of shells showing characteristic differences, Kuiper, J. G. J. (2); *P. amnicum* list of parasites, Dollfus, R. P.; *P. aucklandicum* Mill Creek at Black Bridge, Stewart Island, new record, Smith, E.; *P. casertanum* from Azerbaidjan, Aliev, A. D. (1); *P. casertanum*, *P. subtruncatum*, *P. nitidum*, *P. obtusale lapponicum* and *P. vincentianum*, Upton Warren, Worces., and distribution in Britain, Dance, S. F.;

P. ferrugineum and *P. nitidum* new to Wyoming, Beale, D. E. (1); *P. hensiowanum* (Sheppard) occurrence in Lake Michigan, Hoard, W. H. (2); *P. landeroini* Germain (1909) is a synonym of *P. subtruncatum* Malm., *Psidium "landeroini"* of Tibesti is *P. milium* Held., *P. hermosum* Bourguignat (1888) is a synonym of *P. giraudi* Bourguignat (1885), Kuiper, J. G. J. (1); *P. ultramontanum* Prime, in Modoc Co., California, Taylor, D. W.

†*Psidium milium* Pleistocene, Tihany, Hungary, figs., Krolopp, E.; *P. obtusale* photo., interglacial, Piedmosti, Czechoslovakia, Lošek, V. (10); *P. pseudo-baicalense* p. 12 "spp. nov." Miocene; Baikal region ASSR, Naletov, P. I.; *P. tjazhinensis* p. 59 pl. 3 f. 5, Tjzhin; *P. kohanchikii* p. 59 pl. 4 f. 6, 7, Krasnoyarsk region; spp. nov. Jurassic, Western Siberia, Lebedev, I. V.

†*Polymesoda conveza zovachenica* "var. nov." p. 932, [in a table] Cyrena sandstone Oligocene, SW Armenia, Aslanyan, P. M. (4).

Paeudeupera Germain 1913, a nomen nudum, Kuiper, J. G. J. (1).

Sphaeriidae: Hinge tooth reversal in a survey of Ohio, Eggleton & Davis; Sphaeriidae, collecting, Herrington, H. B. (1).

Sphaerium corneum disappearance from the Kamchatka River after the eruption of the Bezymianna volcano, Kurenkov, I. I.; *S. corneum* dominant bivalve in Lake Östernsjö, Skland, J.; *S. courteti* relict fauna of the Bandagara plateau, Daget, J. (2); *S. transversum* (Say) in unusual habitat in Kansas, Murray, H. D. (2).

†*Sphaerium anderssoni inflata* subsp. nov. pp. 171, 178, pl. 1 fig. 8; Cretaceous, NE of Kweilingtau, Chaousi Basin, Kansu, China, Chow, M. M.

CYPRINACEA

†*Arctica ? sycamorensis* sp. nov. p. 71 pl. 19 figs. 14-16; Comanchean Cretaceous, Fort Worth, Texas, Perkins, B. F.

†*Crenotrapezium kurumense grossum* subsp. nov. p. 115 pl. 16 fig. 4; Ochiai, West Japan, Lia, Hayami, I. (1).

Cyprina islandica cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.; *C. islandica* distribution and bottom fauna associations, Zaitsepina & Filatova.

†*Cyprina islandica* Quaternary, Parma, N. Italy, Pelosio, G.; *C. sublaevis* sp. nov. p. 72 pl. 8 fig. 13; Mikhalovka; Svistovich, Borahev. Jurassic, European Russia, Gherasimov, A. P.; *C. zeribensis* sp. nov. p. 286, pl. 23 figs. 5-12; Cenomanian, Cretaceous; Sidi Bu Zeriba, Tripoli, Ronchetti & Albanesi.

†*Epicypina harrisoni* sp. nov. p. 586 pl. 80 fig. 4; text-fig. 11d; Folkestone Beds, Ivy Hatch, near Ightham, Kent, Casey, R. (4).

††*Isocyprina "fairbridgei"* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10 23 pl. 3 f. 9a, b, Cox, L. R. (1).

†*Pronocella sugayensis* sp. nov. p. 121 pl. 16 figs. 14-16 Sugaya, Soma City, Fukushima Pref. NE Japan, Jurassic, Hayami, I. (2).

†*Proveniella rosacea* sp. nov. p. 586 pl. 80 figs. 5a, b; Atherfield Clay, Nutbourne Brickworks, Shottersmill, near Haslemere, Surrey, Casey, R. (4).

†*Tortarticia* gen. nov. p. 585 of *Arctidae* genotype *Isoarticia similis* J. de C. Sowerby 1826. Lower Albian, S.E. England, Casey, R. (4).

CYAMIAEAE

Basterotia (Basterotella) ecuadoriana sp. nov. p. 243 pl. 36 figs. 8, 8a; Manta, Ecuador, Olsson, A. A.

Ensitelops pacifica sp. nov. p. 241 pl. 80 figs. 9, 9a; Lagartillo near Las Tablas, Panama, Olsson, A. A.

GAIMARDIAEAE

Neogaimardia minutissima, Stewart Island, ecology, Smith, E.

DREISSENIAEAE

Congeris cochleata cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.

Congeris ornithopsis and *C. hoernesii* Pannonian, Miocene, Belgrade area Yugoslavia, Miletić-Spačić, O.

Dreissena polymorpha experimental control by ultrasound of this pest of N. German industrial and power plants, Breitig, G.; *D. polymorpha* mass development in the Stalingrad reservoir, Ljakhov, S. M.; *D. polymorpha* ontogeny and shell development, Nevesskaya, L. A.; *D. polymorpha* cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.; *D. polymorpha* effect of industrial electrical current on colonies, Shentjakov, V. A.; *D. polymorpha* oxygen consumption at different temperatures, Woyanovich, E.

Dreissena jurensis sp. nov. p. 69 pl. 36 figs. 1-4; Moekva Province, Mnevnik; Yaroslavlskaya province; Jurassic, European Russia, Gherasimov, A. P.

Dreissensia koleznikovi sp. nov. p. 250 pl. 39 figs. 13-24; Kama, Novosibirsk U.S.S.R., Bogachev, V. V. (2); *D. polymorpha* assimilation of ¹³¹I, Glaser, R.

LUCINAEAE

Anodontia (Lissochaphra) spherica subgen. nov. p. 221 pl. 30 fig. 2; Isla del Gallo, Colombia, Olsson, A. A.

Callucina (Callucinopsis) subgen. nov. p. 516, type *Lucina foucardi* Desh. 1858; Aptian, Africa; *C. (Pseudolucinica)* subgen. nov. p. 516 type *Codakia lacteola* Tate 1897, Australia, Chavan, A. (3); *C. (Callucinella)* subgen. nov. q.v. p. 561, study of *Callucina* systematics and related genera, Chavan, A. (4).

Callucinella subgen. nov. p. 561 of *Callucina*, subgenotype *Lucina albella* Lamarck 1806, Eocene, France, Chavan, A. (4).

Callucinopsis subgen. nov. p. 516 of *Callucina* Dall 1901 q.v., Chavan, A. (3).

Diplodonta (Diplodonta) suprema sp. nov. p. 201 pl. 32 figs. 2-2b; Palo Seco, Panama Canal Zone, Olsson, A. A.

Felaniella sowerbyi nom. nov. p. 20 for *Felania minor* Sowerby 1903 non Dall 1900, Japan [published after preparation of the manuscript of this work in Illust. Cat. Jap. Shells No. 13 p. 86, 1951 K. & H.], Kuroda & Habe.

Lissochaphra subgen. nov. p. 221 of *Anodontia* q.v. subgenotype *Anodontia spherica* (Dall & Ochsner), Olsson, A. A.

Loripes kostromensis sp. nov. p. 67 pl. 6 figs. 1-3; Polovchinov, Kostromskaya prov., Jurassic, European Russia, Gherasimov, A. P.

Lucina macroporum sp. nov. pp. 10, 25 pl. 4 figs. 1a, b, 2; Nanutarra formation, Western Australia, Cretaceous, Cox, L. R. (1); *L. (Loripes) pseudonivea* sp. nov. p. 55 pl. 1 fig. 14; Mitridat Mts. Kerchi, Crimea, Miocene, Andrusov, N. I. (2).

Mesolinga masatanii sp. nov. p. 119 pl. 16 figs. 8-10; Sugaya, Soma City, Fukushima Pref., NE Japan, Jurassic, Hayami, I. (2).

Mutiella? teichertii sp. nov. Nanutarra formation, Western Australia, Cretaceous pp. 10, 25 pl. 4 f. 6, Cox, L. R. (1).

Paracyclas elliptica gigantica, *P. e. jadrica* "var. nov." Kulikova in Chernov, p. 1, 235, Middle Devonian, Ayach-Yaga River, Vyazovaya horizon, Polar Urals, Russia, Chernov, G. A.

Parvilucina systematic study, affinities and general habits, Chavan, A. (4).

Phlyctiderma insula p. 205 pl. 32 fig. 9; Isla del Gallo, Colombia; *P. elenensis* p. 205 pl. 32 figs. 6, 6a; Santa Elena, Ecuador, spp. nov., Olsson, A. A.

Pseudolucinica subgen. nov. p. 516 of *Callucina* q.v., Chavan, A. (3).

Schaffhütlia nakazawai sp. nov. p. 211 pl. 13 figs. 12-14; Shiraiwa and Hirabara-zaka, W. Japan Triassic, Tokuyama, A. (1).

Thyasira crassiuscula Yokoyama 1927, is a member of the genus *Alucinoma* closely allied to the type *A. soyoe* Habe 1958, Oyama, K. (3); *T. insignis* concluded to merely represent a large form of *T. sarsi* and that the former be regarded as a subspecies of the latter and referred to *T. sarsi insignis* Verrill and Bush; concluded also that *T. plana* and *T. inaequalis* V. & B. must be regarded as junior synonyms of *T. gouldi* Philippi, Ockelmann, K. W.

Thyasira merklini sp. nov. p. 197 pl. 4 figs. 1, 2; Caucasus and Crimea, Middle Miocene, Zhishchenko, B. P.

ERYCINAEAE

Amyrcina gen. nov. p. 516 of Erycinidae genotype *Erycina colpoica* Dall 1913, Chavan, A. (3).

Bornia venada p. 232 pl. 35 fig. 12; Venado Beach, Panama; *B. egretta* p. 232 pl. 35 fig. 11; Sechurita near Zorritos, Peru; *B. zorritensis* p. 232 pl. 35 figs. 9, 9a; Zorritos Peru; *B. chicalaya* p. 233 pl. 35 fig. 13; Chimbote Peru; spp. nov., Olsson, A. A.

Erycinopsis subgen. nov. p. 516 of *Semierycina* q.v., Chavan, A. (3).

Kellia suborbicularis functional anatomy, figs., Oldfield, E.

Lasaea rubra orientated movements, Brafield, A. E.

Lepton lediformis sp. nov. p. 230 pl. 36 fig. 10; El Lagartillo, Panama, Olsson, A. A.

Montacuta ferruginosa and *M. substriata* functional anatomy, figs., Oldfield, E.

Mysella negritensis sp. nov. p. 234 pl. 35 fig. 8; Negritos, Peru, Olsson, A. A.

Nesobornia lactea Kuroda sp. nov. p. 82, Okinawa Is., Kuroda, T. (1).

Nipponomontacuta gen. nov. p. 265 [*Montacuta* like]; type species *N. actinariophila* sp. nov. p. 265 text-figs. 1, 2; Bansyo-zaki, Shirahama, Wakayama Pref., Honshu, Yamamoto & Habe.

Orobittella zorrita p. 236 pl. 35 fig. 3; Zorritos, Peru; *O. peruviana* p. 237 pl. 35 fig. 7; Boca Pan, Peru; *O. margarita* p. 237 pl. 35 fig. 2; San Miguel beach, Rey Island, Pearl Islands, Panama; *O. sechura* p. 237 pl. 35 figs. 1-1b; Bayovar, Sechura Bay, Peru; *O. jipijapa* p. 238 pl. 35 fig. 5; Jipijapa Port, Puerto Callo, Ecuador spp. nov., Olsson, A. A.

Potidoma gen. nov. p. 146 Montacutidae type species *P. subtrigonum* p. 147 figs. 14-17; Morgat, also in this genus *Lepton clarkiae* = *Potidoma clarkiae*, Deroux, G.

Pseudopythina sagamiensis sp. nov. pp. 151, 154 f. 5-8. Zushi City, Kanagawa Pref., Honshu, Japan, Habe, T. (3).

Scintilla virescens and *S. vitrea*, characteristics of soft parts and comparison of the two species, Arakawa, K. Y.; *S. virescens* sp. nov. p. 141, Shirahama, southern Kii Peninsula, Japan, Kuroda & Taki.

†*Semierycina* (Monterosato 1912 in Cossmann) (*Erycinopsis*) subgen. nov. p. 516, type *Erycina semipeden* Cossmann 1887, Eocene, Chavan, A. (3).

Solecardia peruviana sp. nov. p. 240 pl. 36 figs. 3, 3a; Zorritos, Peru, Olsson, A. A.

†*Spaniodon intermedium* and *S. crassidens* "sp. nov." [in a list] p. 363, Miocene Caspian region, Russia, Andrusov, N. I. (5).

Tryphomyx gen. nov. p. 240 of Galeommatidae genotype *T. lepidiformis* sp. nov. p. 240 pl. 36 figs. 4, 4a; Lagartillo near Las Tablas, Panama, Olsson, A. A.

CHAMACEA

†*Apulites* gen. nov. p. 173 of Radiolitinae, genotype *A. giganteus* sp. nov. p. 173 pl. 26; pl. 27 figs. 1a-b; pl. 28 figs. 2a-c; Murgia Ceraso, Italy, Cenomanian Cretaceous, Tavani, G.

†*Barrettia monilifera* and *B. multilirata*, Cretaceous, Cuba, Chubb, L. J.

†*Caprinuloidea* ? *albrittoni* sp. nov. p. 78 pl. 22 figs. 14-17 pl. 23 figs. 1-5; text-figs. 25, 26; Lower Cretaceous, Ojo de Agua, Sierra de Tlahualilo, Coahuila, Mexico, Perkins, B. F.

†*Chama giganti* sp. nov. p. 81 pl. 7 fig. 4; Lutetian Cretaceous; Gannour, Morocco, Salvan, H.; *C. gryphoides konkensis* var. nov. p. 151 pl. 2 figs. 4-5; Konkak horizon Palaeozoic, Central Pre-Caucasus, Russian Platform, Pavlova-Ilyina, L. E.

Hippurites Lamarck 1801, place on the Official List, type species by monotypy *H. bioculata* Lamarck 1801, specific name accepted in this binomen, Opinion 613.

†*Hippurites* (*Vaccinites*) *athensiensis* 3 pls., Senonian, Toulou-Kamen, Greece, Sakellariou, H.

Hippuritidae Gray 1848 (type genus *Hippurites* Lamarck 1801) placed on the Official List of Family Group Names, Opinion 613.

†*Jousia reticulata* in Turkey, pl. 1-iv, fig. 1; discussion of age of specimens found at Çerkes, Karacabey, N.

†*Oculigera magna* from Persia, general note, Maestrighian, Grubic, A.

†*Pachytraga tubuleux*, figs. Barremian, Doube, France, Astre, G. (4).

†*Pironaea polystyla bacevicensis* p. 368 fig. 2H; Vrbovac-Bacevica; *P. polystyla dalmatinica* p. 371, figs. 2E, F; Peljicak; *P. polystyla dinarica* p. 373 fig. 2I; Viročani; vars. nov. Cretaceous, Yugoslavia, Milovanović, B.

†*Plesiodiceras angustum* p. 10, pl. 2 figs. 3a, 3b; pl. 3 figs. 1, 2a, b, 3a, b, 4a; pl. 4 figs. 1a, b, 2a, b, 3; text-fig. 1; *P. orientale* p. 12 pl. 2 figs. 1a, b; text-fig. 2; *P. capuliforme* p. 14 pl. 2 figs. 2a, b; spp. nov. Akai Chin, Kashmir and Afghanistan, Lusitanian, Jurassic, Fehelintsev, V. F. (2).

†*Titanosarcolites giganteus* faunal assemblage, Cretaceous, Cuba, Chubb, L. J.

†*Vaccinites gaudryi* and *V. archiaci* Pournari, Jerakli and Xerovouni Greece, Cretaceous, Aubouin, J.; *V. oppeli pironaeformis* internal structure approaching that of *Pironaea*, Lupo, M. & D.

CARDIACEA

Apicardis subgen. nov. p. 252 of *Trigonicardia* q.v. subgenotype *Cardium obovale* Sowerby, Olsson, A. A.

†*Arkitella* gen. nov. p. 102 of Pseudocardinidae; *A. pteropernoida* p. 102 fig. 2; *A. arkitensis* p. 102 fig. 3 spp. nov. Arkit, U.S.S.R., Jurassic, Repman, E. A.

†*Barcinia* gen. nov. p. 362 (= *Kralovna* s.l.) genotype *K. almerae* Barrande, Barcelona, Valcarlos, middle Devonian Spain, Suñer Coma, E.

Cardium echinatum autofluorescence of pigments, Arvy & Lerma; *C. edule* colouration of beach sands due to *Cardium* pigmentation, Figueras Monfort, A. (2); *C. edule* developmental study, Figueras Monfort, A. (3); *C. edule major*, *C. e. quadrata*, *C. e. nuciformis*, *C. e. lamarecki* and *C. e. batesoni*, variations in the Black Sea, Grossu, A. V.; *C. edule* increasing distribution in Icelandic waters, Oskarsson, I.; *C. glaucum* "Lago di Patria," ecological study, Sacchi, C. F. (1); *C. lamarecki* in Norwegian waters, Tulkki, P.; *C. lamarecki* biocoenosis Marano and Grado lagoons, Vatova, A. (1).

†*Cardium andrusovi pavlinovi* var. nov. p. 171 pl. 22 figs. 43, 44; Panonian, Miocene; Northern Caucasus, Russia, Zhiabchenko, B. P.; *C. andrusovi tuskajensis* var. nov. p. 147 pl. 2 figs. 2-3; Konkak horizon, Palaeozoic; Beloi river basin, Russian Platform, Pavlova-Ilyina, L. E.; *C. centropleurum* sp. nov. p. 274 pl. 2 fig. 15; Akburun, Akhtiar, Crimean region, Russia, Sarmatian Miocene, Andrusov, N. I. (4); *C. dalmatinum* and *C. gratum* Lutetian Eocene, Ostrovica, Dubravica and Brbir, Dalmatia, Pavlovec, R.; *C. karajmanicum*, *C. mainacarium*, *C. lecanoidum* Kukurt; *C. derbenticum* Derbent; "sp. nov." p. 328 [in text] Miocene, Russia, Andrusov, N. I. (4); *C. kokkupicum* sp. nov. p. 568 pl. 3 fig. 55; Konkak horizon, Mangyshlak, Russia, Miocene, Andrusov, N. I. (8); *C. mithridatis* sp. nov. p. 67 pl. 2 figs. 10, 11; Miocene, Mitridat, Cheghen, Crimea, Andrusov, N. I. (2); *C. novakovskyi*, *C. dombra*, *C. nikitini*, *C. karelini*, *C. radiiferum*, *C. koshchinski*, *C. cucurtese*, *C. vogdti* and *C. siphonophorum* "sp. nov." [in a table] p. 372, Miocene Caspian region, Russia, Andrusov, N. I. (5); *C. pseudomulticostatum elongata* var. nov. p. 58 pl. figs. 1, 2; Chokrakak deposits, Miocene, Georgia, Russia, Bagdasaryan, K. G.; *C. suense* p. 43 pl. 7 figs. 1-3; Sue; *C. millelocum* p. 44 pl. 7 figs. 4-10; Enseli; *C. kazundense* p. 46 pl. 7 figs. 11-14; Karagel; *C. karabugasicum* p. 47 pl. 7 figs. 15-18; Kara-Bogaz-Gol; *C. karagiense* p. 47 pl. 7 figs. 19-20; Karagel, Kazakhstan; spp. nov. Sarmatian, Miocene; Mangyshlak, Turkmeniya Russia, Sidorova, N. F.

†*Cypriocardinia techikojensis* "sp. nov." p. 63, Permian, Transbaikalia, Russia, Maslennikov, D. F. in Naletov, P. I.

†*Didacna catalaunica* sp. nov. p. 275 pl. 1 figs. 19-26, pl. 2 figs. 1, 2, 4-6, 8, 18a; *Didacna* sp. nov. p. 276 pl. 2 fig. 7; *D. pseudoschemachinica* sp. nov. p. 275, pl. 2 figs. 9, 10; *Didacna* nov. sp. p. 277 pl. 2 figs. 11, 12; Pliocene, Barcelona, Spain, Gillet & Vicente.

Laevicardium oblongum deep sea faunal associations off Provence, Picard, J.

†*Limnocardium* sp. nov. cf. *trifkovi* p. 273 pl. 1 figs. 3-7, 9-10, 18; Pliocene Barcelona, Gillet & Vicente; *L. (Tauricardium) peterei* Pontian Miocene, Kadar, Bosnia, Yugoslavia, Stevanović, P. M.

Nemocardium (Microcardium) sakuraii sp. nov. Cardidae; Toea Bay, Kochi Pref., Shikoku, Japan, pp. 152, 155 text-fig. 9, Habe, T. (3); *N. nicolleti* (Conrad) systematic description and review of N. American Palaeocene forms, Hughes, R. J.

Papyridea mantaensis sp. nov. p. 250 pl. 37 figs. 5-6; pl. 38 fig. 7; Manta, Ecuador, Olsson, A. A.

†*Paradaena abichi slavonica* var. nov. p. 134, Pliocene, Požega and Kasonja Mts., Yugoslavia, Jenko, K. (2).

†*Prosodaena stenopleura sturienensis* var. nov. p. 307 pl. 4 fig. 17; Dacian, Fersampenuazul Mare (Nou) Cetatea-Albă; *P. rumana bassarabica* var. nov. p. 308 pl. 4 figs. 28-31; Odessa; Miocene, Bessarabia, Roumania, Macarovici, N.

†*Protocardia*, all Tertiary species considered to belong to *Nemocardium* Meek, Hughes, R. J.; *P. prosogyra* p. 74 pl. 20 figs. 8, 11; Fort Worth, *P. roanokensis* p. 74 pl. 20 figs. 14, 15; Denton Co., *P. nutans* p. 75 pl. 20 figs. 6, 12; Fort Worth spp. nov. Texas, Cretaceous, Perkins, B. F.; *P. wapiti* sp. nov. Nanutarra formation Western Australia, Cretaceous pp. 10, 26 pl. 4 f. 3, 4a, b, 5; Cox, L. R. (1).

Trachycardium (Acrosterigma) [serriocostatum] Melvill & Standen var. 1] *okinawense* Kuroda (nov.) p. 82, Okinawa Is., Kuroda, T. (1).

Trifaricardium gen. nov. p. 34 Cardidae genotype *Cardium (Acanthocardia) cancellatum* Nomura 1933 = *nomurai* p. 34, nom. nov. pro *cancellatum* Nomura 1933 nom. Gmelin 1791, Japan [published after preparation of the manuscript of this work in Illust. Cat. Jap. Shells No. 13 p. 86 1951, Kuroda & Habe].

Trigonicardium (Apicardium) obovale subgen. nov. p. 252 pl. 38 fig. 4; Zorritos, Peru, Olsson, A. A.

†*Trigonicardium (T.) panis-sacchari* sp. nov. p. 302, pl. figs. 1-4; St. Eustatius Sugar Loaf, presumably Pleistocene, Leeward Islands, Altena, C. O. v. R. (1); *T. panis-sacchari* on its type locality, Altena, C. O. v. R. (4).

VENERACEA

Anomalocardia producta nom. nov. p. 13, for *Venus impressa* Anton 1837 non De Serres 1829, Japan [published after preparation of the manuscript of this work in Illust. Cat. Jap. Shells No. 13, p. 86, 1951, Kuroda & Habe]. Kuroda & Habe.

Antinioche subgen. nov. p. 310 of *Nioche* q.v. subgenotype *Nioche (Antinioche) beili* sp. nov. q.v., Olsson, A. A.

Chione fluctifraga and *C. undatella* eaten by octopus after hole drilled in shell, Pilson & Taylor; *C. (Iliochoe) subrugosa* subgen. nov. p. 297 pl. 51 figs. 5, 5a; Tumaco, Colombia, Olsson, A. A.

†*Chione korobkovi* sp. nov. p. 16 pl. 1, figs. 4-7; Palaeogene, SW Armenia, Aslanyan, F. M. (1).

Clementia solida first complete specimen from Mexican waters at Mazatlan, S of the type locality Topolobampo, Anon. (1).

†*Clementia (Egesta) peruviana* Tertiary, Borchina, Colombia, Olsson & Richards.

Coloche gen. nov. p. 311 Venerinae genotype *C. ecuadoriana* sp. nov. p. 311 pl. 41 fig. 2; pl. 55 fig. 5; Palmar, Colonche Ecuador, Olsson, A. A.

Cooperella panamensis sp. nov. p. 318 pl. 84 fig. 5; Bocaro, Panama, Olsson, A. A.

Cyclinella jaderi sp. nov. p. 264 pl. 43 figs. 2, 2a; Pearl Islands Panama City, Panama, Olsson, A. A.

Dosinia exoleta and *D. lupinus lineata* functional morphology, Ansell, A. D. (2); *D. lupinus* and *D. exoleta* distribution in the English Channel, Holme, N. A. (1); *D. orbiculata* Dunker 1877, and *D. subalata* Smith 1916, are not synonymous, the former comes from 80-100 m. depth, the latter near the sea-shore, sculpturing differs also, Oyama, K. (3).

†*Dosinia masotica* "sp. nov." p. 328 pl. 3 figs. 1-8 [in text], Miocene, Russia, Andrusov, N. I. (4).

†*Flaventia kukpovrukensis* sp. nov. p. 44 pl. 6 fig. 17; Kokolik river, Northern Alaska, Torok formation, Albian Cretaceous Imlay, R. W. (2).

Gafrarium minimum functional morphology, Ansell, A. D. (2).

Iliochoe subgen. nov. p. 297 of *Chione* q.v. subgenotype *Venus subrugosa* Sowerby 1853 (= *Venus subrugosa* Wood), Olsson, A. A.

Irus ishikashianus nom. nov. p. 21 for *Venerupis irus* Yokoyama 1924, Japan, Kuroda & Habe.

Lamelliconcha circinata vinacea subsp. nov. p. 287 pl. 48 figs. 2-2b; Charapota, Ecuador, Olsson, A. A.

Mercenaria mercenaria functional morphology, behaviour and autecology in early stages, Carriker, M. R. (2); *M. mercenaria* naturalization in Europe; ecological note, Heppell, D. (2); *M. mercenaria* formation of the periostracum, Hillman, R. E.

Meretrix meretrix in the bottom fauna of the Vellar estuary, Balasubrahmanyan, K.; *M. meretrix lusoria* from Fukuyama harbour, Matsudaira, Koyama & Endo; *M. meretrix lusoria* vitamin B₁₂ content in extracts, Miyake & Hayashi; *M. meretrix lusoria* Gmelin, mantle section figd. (i.e. shell and pearl formation), Tsuji, T.; *M. meretrix lusoria* xanthine dehydrogenase study, Tsusuki, K.

†*Meretrix ? fortworthensis* sp. nov. p. 77, pl. 22 figs. 9-12; Comanchean Cretaceous, Fort Worth, Texas, Perkins, B. F.

Mysis undata functional morphology and systematic position; Ansell, A. D. (2); *M. undata* new to Icelandic fauna from sand at Faxaflói, Óskarsson, I.

Nioche (Nioche) zorritensis p. 308 pl. 53 figs. 5, 5a; pl. 55 fig. 6; Zorritos, Peru; *N. (N.) mcgintyi* p. 309 pl. 52 figs. 2, 2a; Palo Seco, Panama Canal Zone; spp. nov. *N. (Antinioche) beili* subgen. et sp. nov. p. 310 pl. 50 figs. 1, 1a, 4; Pedro Gonzales, Pearl Islands, Panama, Olsson, A. A.

Pectunculus Da Costa 1778 (type sp. by designation by Jukes-Brown 1911, *P. capillaceus* Da Costa 1778) proposal to place this name on Official List of Generic Names; *Pectunculus* Lamarek 1799, proposal to suppress as a junior homonym of *Pectunculus* Da Costa 1778, Vokes & Cox.

Patricola (Patricola) peruviana p. 315 pl. 55 fig. 9; Santa Elena Peru; *P. (Narario) botula* p. 317 pl. 55 figs. 7, 7a, 8; Guanoico, Panama; *P. (N.) charapota* p. 317 pl. 54 fig. 7; Charapota, Ecuador, spp. nov., Olsson, A. A.; *P. pholidiformis* functional morphology, Ansell, A. D. (2).

Pitar (Pitar) elenensis p. 275 pl. 45 figs. 1-1b; Santa Elena, Ecuador; *P. (P.) helenae* p. 276 pl. 45 figs. 2, 2a; Pearl Islands, Panama; *P. (Hyphanisoma) Aertleini* p. 276 pl. 45 figs. 6, 6a; Gorgona Island, SW Colombia; spp. nov., Olsson, A. A.

†*Pitar chiraensis*, Tertiary Borchina, Colombia, Olsson & Richards; *P. gatchensis* p. 18 pl. 1 fig. 8; *P. elpinensis* p. 19 pl. 1 figs. 9a, 9b; spp. nov. Palaeogene;

SW Armenia, *Aalanyan, P. M.* (1); *P. (Callista) triquetrorotundus* sp. nov. p. 31 pl. 4 figs. 4, 5; Eocene Southern Ukraine, *Korobkov, I. A.*

Planitvela subgen. nov. p. 266 of *Tivela* q.v. subgenotype *Tivela planulata* (Broderip & Sowerby), *Olsson, A. A.*

Protothaca (Tropithaca) grata subgen. nov. p. 305 pl. 53 figs. 2-2b, 7; Esmeraldas, Ecuador, *Olsson, A. A.*

†*Protothaca lateivai* n. subsp. [n. nud.] p. 113 Onnenai formation, Hokkaido, *Imanishi, S.*

Saxidomus giganteus able to introduce unsaturation into the cholesterol side chain at C-22 and C-25, *Fagerlund & Idler* (1); *S. giganteus* biosynthesis of 24-methylenecholesterol, *Fagerlund & Idler* (2); *S. purpuratus* found on the beach in Tokyo Bay after a typhoon, *Horikoshi, M.* (2).

Tapes japonica absorption of radioactive vitamin B₁₂ from sea water, *Tozawa & Sagara* (1); *T. japonica* stability of radioactive B₁₂ in tissues, *Tozawa & Sagara* (2).

†*Tapes curta* "nov. sp." p. 317 pl. 3 figs. 16-18; Miocene, Crimea [in a list], *Andrusov, N. I.* (4); *T. ehlersi* sp. nov. p. 77 pl. 22 figs. 5-8; Comanchean Cretaceous, North Worth, Texas, *Perkins, B. F.*; *T. modesta chevdzmaris* var. nov. p. 106 pl. 1 fig. 4; Khevdzmaris eastern Georgia, Konkak horizon ?Miocene, Russia, *Ghrachevsky, M. M.*

Timoclea levicostata Kuroda sp. nov. p. 82 Okinawa Is., *Kuroda, T.* (1).

Tivela (Planitvella) planulata subgen. nov. p. 266 pl. 44 figs. 5, 5a; Boca Pan, Peru, *Olsson, A. A.*

Tropithaca subgen. nov. p. 305 of *Protothaca* q.v. subgenotype *Protothaca grata* (Say), *Olsson, A. A.*

Veneracea functional morphology of British species, *Ansell, A. D.* (2).

Venerupis aurea, *V. decussata*, *V. pullastra* and *V. rhomboides* functional morphology, *Ansell, A. D.* (2); *V. aurea*, *V. decussata*, *V. pullastra* and *V. rhomboides* shell form and measurements in the Plymouth region, *Holme, N. A.* (3); *V. philippinarum* nature of lipase in digestive diverticula, *Hozumi, M.*; *V. philippinarum* vitamin B₂ content in extracts, *Miyake & Hayashi*; *V. philippinarum* xanthine dehydrogenases, *Tsuzuki, K.*; *V. semidecussata* from Fukuyama harbour, *Matsudaira, Koyama & Endo*.

†*Venerupis abichi* sp. nov. p. 58 pl. 1 figs. 15, 16; Mitridat, Ossovin Crimea, Miocene, *Andrusov, N. I.* (2).

Venus casina and *V. fasciata* communities off Roscoff, *Cabioch, L.*; *V. exoleta* (the oldest available name for the type species of *Pectunculus* Da Costa 1778) Linnaeus 1758, proposal to place the specific name on the Official List, *Vokes & Cox*; *V. gallina* and *V. verrucosa* autofluorescence of pigments, *Arvy & Lerma*; *V. mercenaria* effect of pesticides on eggs and larvae, *Davis, H. C.*; *V. mercenaria* tidal rhythm of opening and closing of valves, *Fingerman, M.*; *V. striatula* reproduction, growth and mortality in Kames Bay, Millport, *Ansell, A. D.* (1); *V. striatula*, *V. casina*, *V. ovata*, and *V. fasciata* functional morphology, *Ansell, A. D.* (2); *V. striatula* development of the primary gonad, figs., *Ansell, A. D.* (3); *V. striatula* and *V. fasciata* distribution in the English Channel, *Holme, N. A.* (1).

†*Venus casacica* sp. nov. p. 149 pl. 1 figs. 9-12; Konkak horizon, Palaeozoic Caucasus, Russian Platform, *Pavlinova-Ilyina, L. B.*; *V. gallina* biometric study from Cabo de Salou, Spain, *Porta, J. da*; *V.*

konkensis from the R. Konka, Western Ukraine, Miocene, *Kudrin, L. N.* (2).

MACTRACEA

†*Avimactra* "subgen. nov." of *Mactra* p. 331 q.v., *Andrusov, N. I.* (4).

†*Ervilia dissita crassa* subsp. nov. p. 598 pl. 14, figs. 6-9; Eceseg, Hungary Miocene, *Boda, J.*; *E. megalodon* sp. nov. p. 556, Konkak horizon, Miocene, Russia, *Andrusov, N. I.* (8).

Mactra corallina preyed on by *Asterias* and other predators, Normandy coasts, *Fischer, P.-H.* (4); *M. fragilis*, properties of glycogen, *Hagerman, D. D.*; *M. sulcataria* found on the beach in Tokyo Bay after a typhoon, *Horikoshi, M.* (2); *M. sulcataria* carbonic anhydrase activity in tissues, *Shimizu & Fukuhara*; *M. sulcataria* xanthine dehydrogenase study, *Tsuzuki, K.*

†*Mactra alata* sp. nov. p. 217 pl. 1 figs. 46-47; Sarmatian Miocene, Leontina (Tighina) Bessarabia Roumania, *Macarovici, N.*; *M. imago* [p. 320 in a list] p. 331 pl. 3 figs. 14-15; Balkans; *M. schirvanica* p. 331 pl. 3, figs. 12-13; *M. (Avimactra) "subgen. nov." aviculoides* p. 331 pl. 3 figs. 19-22; "spp. nov." [in text] Miocene, Russia, *Andrusov, N. I.* (4); *M. subcaspia*, *M. karabugasca*, *M. venjukovi*, *M. inostranzevi*, *M. pisum* and *M. acutecarinata* "spp. nov." [in a table] p. 372 Miocene, Caspian region, Russia, *Andrusov, N. I.* (5).

Mesodesma macroides growth study, *Cabrera, S. E.*; *M. macroides* population, growth and conchometry, *Argentina, Rapoport, E. H.*

Rangia cuneata effect of salinity on amino acid concentration, *Allen, K.* (2).

Schizothaerus nuttallii measurement of cytochrome respiratory pigments, *Pablo & Tappel*.

Spisula adamsi sp. nov. p. 326, pl. 57 figs. 7-7c; Palo Seco, Panama Canal Zone, *Olsson, A. A.*; "*Spisula*" *hartingi* Spink 1958 right valve now described. Affinity with *Mactra* L. 1787 rather than with *Spisula* Gray 1837, *Kruiff, J. P. N.*; *S. sachalinensis* changes in adenine nucleotides of muscle, *Arai & Saito*; *S. solida* dense beds in Start Bay, English Channel, *Holme, N. A.* (1); *S. solida* cellular, thermal and osmotic resistance limits of isolated gill tissue, *Reishoff, K.*; *S. solidissima* application of freeze-substitution to study of oocytes, *Rebhun, L. I.* (1); *S. solidissima* electron microscope study of oocytes, *Rebhun, L. I.* (2); *S. solidissima* uptake of amino acids, *Stephens & Schinske*; *S. solidissima* electron transport in eggs, developing embryos and adult tissues, *Strittmatter, P. & C. F.*

TELLINACEA

Abra alba "Lago di Patria," Naples, ecological study, *Sacchi, C. F.* (1); *A. kurodai* sp. nov. pp. 153, 156 f.l. 2, Tosa Bay, Kochi Pref., Shikoku, Japan, *Habe, T.* (3); *A. prismatica* recorded from deep water silty sand off Plymouth and Bigbury Bay, *Holme, N. A.* (1).

Arcopecten crassa distribution in the English Channel, *Holme, N. A.* (1); *A. crassa* burrowing movements, *Holme, N. A.* (2); *A. (Cadella) hosiymai* Kuroda sp. nov. p. 83 Okinawa Is., *Kuroda, T.* (1).

Ardeamya gen. nov. p. 417 Macominae genotype *Tellina columbiensis* Hanley pl. 74 figs. 5, 5a; Tumbes, Peru, *Olsson, A. A.*

Austromacoma gen. nov. p. 419 Macominae genotype *Macoma constricta* (Bruguière) Caribbean, *Olsson, A. A.*

Donax mancorensis p. 340 pl. 61 figs. 3-3b; Zorritos Peru; *D. ecuadorianus* p. 340 pl. 61 figs. 2-2b; Canos, Ecuador, spp. nov., *Olsson, A. A.*; *D. semigranosis* and

D. variabilis migration up and down the beach with rise and fall of the tide, **Fingerman, M.**; *D. variabilis* zonation on Clearwater Beach, Florida, **Edgren, R. A.**

†*Donax bajarunasi* sp. nov. p. 554 Konkak horizon, Miocene; Tyub-Karaghanak, Russia, **Andrusov, N. I.** (8).

Elpidollina gen. nov. p. 407, Tellinidae genotype *Tellina decumbens*, Carpenter pl. 68 figs. 14, 15; Old Panama, Panama, **Olsson, A. A.**

Eurytellina (*Eurytellina*) *hertleini* sp. nov. p. 393 pl. 68 fig. 6; pl. 71 figs. 2, 2a; Isla del Gallo, Colombia, **Olsson, A. A.**

Fabulina nitidula electron microscopy of the adductor muscle, **Kawaguti & Ikemoto.**

Gari Schumacher 1817, comments on the proposal to place this name on the Official List unemended [various authors pp. 297-303 Bull. Zool. Nom. 18]; *Gari* Schumacher, should be established, with the species *Tellina gari* Linnaeus objectively defined by the proposed neotype, as type species; *T. gari* thus defined being a senior synonym of *Gari vulgaris* Schumacher, the nominal type species of *Gari*, **Cox, L. E.** (2); *G. (Gobreaux) panamensis* p. 357 pl. 63 fig. 11; Palo Seco, Panama Canal Zone; *G. (Gobreaux) heleneae* p. 357 pl. 63 figs. 12, 12a; Pearl Is., Panama spp. nov., **Olsson, A. A.**

Hertellina gen. nov. p. 409 Tellinidae genotype *Tellina (Sciastella) nicoyana* Hertlein & Strong, Ballena Bay, Gulf of Nicoya, Costa Rica, **Olsson, A. A.**

†*Isodontia arenicola* sp. nov. p. 73 pl. 11 fig. 8; Kotelnikovo; Moskva province and Ryazanskaya province; Jurassic, European Russia, **Gherasimov, P. A.**

Lyratellina gen. nov. p. 383 Tellinidae genotype *Tellina lyra* Hanley, pl. 70 figs. 1-1c; Fort Amador, Balboa, Panama Canal Zone, **Olsson, A. A.**

Macoma balthica orientated U-shaped feeding excursions, **Brasfield, A. E.**; *M. balthica* behaviour, **Brasfield & Newell**; *M. balthica* distribution, density of population, habitat, burrowing habits, food, predators, reproduction, physiology, external morphology, anatomy and resistance to pollution, **[Clay, E.]** (3); *M. balthica* investigations on Baltic populations, age and growth, **Segerstråle, S. G.**; *M. balthica* on the shores of the Laptev Sea, Russia, **Troitzky, S. L.**; *M. secta* measurement of cytochrome respiratory pigments, **Pablo & Tappel.**

†*Macoma* n.sp. p. 113, Onnenai formation, Hokkaido, **Imanishi, S.**; *M. balthica* on the shores of the Laptev Sea, Russia, **Troitzky, S. L.**; *M. praetexta oinomikadoi* Otuka 1939 synonym of *Macoma calcarea* (Gmelin), **Oyama, K.** (5).

Merisica monomera sp. nov. Miyako-jima, Ryukyu Archipelago, Japan pp. 420 (430), **Habe, T.** (10); *M. rhynchoscute* p. 382 pl. 70 figs. 3-3b; Manglaralto, Ecuador; *M. margarita* p. 383 pl. 70 figs. 5, 5a; Puerto Chame, San Miguel, Rey Island, Pearl Islands, spp. nov., **Olsson, A. A.**

Moerella (*Moerella*) *tumbesensis* p. 403 pl. 68 fig. 5; pl. 69 fig. 8; Tumbes, Peru; *M. (Sciastella) esmeralda* p. 407 pl. 68 fig. 11; pl. 72 fig. 5; Camarones, Ecuador; spp. nov., **Olsson, A. A.**

Pisostigilla subgen. nov. p. 390 of *Strigilla* q.v. subgenotype *Strigilla pisiformis* (Linné), **Olsson, A. A.**

†*Psammocula kazusensis atsumiensis* subsp. nov. p. 54 pl. 7 figs. 1-2; Takamatsu Atsumi Peninsula, Japan; Pleistocene, **Hayasaka, S.**

Psammothalia gen. nov. p. 416 Macominae genotype *Tellina cognata* C. B. Adams pl. 67 figs. 1-1b; pl. 68 fig. 16; Zorritos Peru, **Olsson, A. A.**

Sanguinolaria (*Sanguinolaria*) *tenuis* sp. nov. p. 349 pl. 85 fig. 6; Canoa, Ecuador, **Olsson, A. A.**

Scrobicularia plana, biotopes around Roscoff, N. France, **Güérin, M.**

Semele pilobryi p. 368 pl. 65 figs. 6, 6a; Búcaro, Panama; *S. margarita* p. 370, pl. 66 fig. 3; Rey Island, Pearl Islands, Panama spp. nov., **Olsson, A. A.**

Simplistrigilla subgen. nov. p. 390 of *Strigilla* q.v. subgenotype *Strigilla atrata* sp. nov. q.v., **Olsson, A. A.**

†*Solecurtus* ? *chapmani* sp. nov. p. 44 pl. 3 figs. 14-18; Awuna river northern Alaska, Albian Cretaceous, **Imlay, R. W.** (2).

Solenocurtus antiquatus and *S. candidus* collected off Arcachon, **Amanieu & Cazaux.**

†*Soletellina* (*Soletellina*) *kobiyamae* sp. nov. p. 77 pl. 11 figs. 9-12, Asagai formation Oligocene Yakatoka tunnel, Japan, **Kanno, S.** (1).

Strigilla (*Pisostigilla*) *pisiformis* subgen. nov. p. 390, *S. (P.) panamensis* sp. nov. p. 390 pl. 39 figs. 8-8b; Guanico, Panama; *S. (Simplistrigilla) atrata* subgen. et sp. nov. p. 390 pl. 39 fig. 7; Punta Blanca, Ecuador, **Olsson, A. A.**

Syndesmia alba and *S. fragilis* biocoenoses in the NW Black Sea, **Nikitin, V. N.**

Tagelus californianus habitat and alimentary canal pigmentation, **Figueras [Monfort], A.** (1); *T. (Tagelus) irregularis* subsp. nov. p. 352 pl. 62 fig. 6; Punta Montanita near Manglaralto, Ecuador, **Olsson, A. A.**; *T. plebius* common in Somerset Co., waters, Maryland, **Pfizenmeyer, H. T.**

Tellina donacina, *T. crassa*; *T. fabula* and *T. tenuis* alimentary canal pigmentation and habitat, **Figueras [Monfort], A.** (1); *T. donacina*, *fabula*, *tenuis* and *equalida* shell form and mode of life, figs., **Holme, N. A.** (2); *T. serrata* deep water faunal associations, **Jacquotte, R.**; *T. tenuis* distribution, density of population, habitat, burrowing habits, food, predators, reproduction, physiology, external morphology, anatomy and resistance to pollution, **[Clay, E.]** (3).

†*Tellina izurenensis* Yokoyama 1925, synonym of *Macoma calcarea* (Gmelin), **Oyama, K.** (5).

Tellinidella mompichensis sp. nov. p. 400 pl. 72 fig. 3; Mompiche Ecuador, **Olsson, A. A.**

SOLENACEA

†*Cultellus* ? *kokolikensis* sp. nov. p. 45 pl. 3 figs. 7, 13; Kokolik river, northern Alaska, Kukpowruk formation Albian Cretaceous, **Imlay, R. W.** (2).

Ensis arcuatus habitat and alimentary canal pigmentation, **Figueras [Monfort], A.** (1).

†*Leptosolen strigula* sp. nov. p. 78 pl. 22 fig. 13; Comanchean Cretaceous, Tarrant Co., Texas, **Perkins, B. F.**

Siliqua slooti sp. nov. p. 14 pl. 5 figs. 1, 2; pl. 6, figs. 4-7; Portage Bay Alaska to Point Bonita, Marin County, California in 10-86 fathoms, **Hertlein, L. G.** (2).

Solen aquae-dulcoris in the bottom fauna of the Vellar estuary, **Balasubrahmanyam, K.**

SAXICAVACEA

Panopaea Lamarck 1818, proposal to place this name on the Official Index of Rejected and Invalid Generic Names as an unjustified emendation of *Panopes* Ménérier de la Groye 1807, **Vokes & Cox.**

†*Panopaea glycymeris* Quaternary, Albufera, Spain, Imperatori, L.

Panope Ménard de la Groye [after April] 1807, proposal to place this name on the Official Index of Rejected and Invalid Generic Names as an incorrect spelling of *Panopea* Ménard de la Groye April 1807, Vokes & Cox.

Panopea Ménard de la Groye 1807 (type-sp. *P. aldrovandi* M. de la G. 1807) proposal to be placed on Official Generic List, Vokes & Cox; *P. smithae* trawled at "Lucky" fishing grounds off North coast of Foveaux Strait oyster beds, *P. zelandica* North Arm, Paterson Inlet, Smith, E.

†*Panopea glassneri* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10, 28 pl. 5 f. 7; pl. 6 f. 4a, b., Cox, L. R. (1).

Sazicava arctica radiocarbon dating on raised beaches in Nordaustlandet, Spitsbergen, Blake, Jr. W.

MYACEA

†*Aloidis gibba* fig. Pliocene, mouth of the West-Scheldt, Moraal, J. M. (1).

†*Atomodesma* (*Atomodesma*) *bisulcata* sp. nov. p. 124 pl. 17 figs. 15-19; Permian Tolmies, E. Australia, Dickens, J. M. (1).

Austroplatyodon subgen. nov. p. 424 of *Platyodon* q.v. subgenotype *Platyodon* (*Austroplatyodon*) *australis* sp. nov. q.v., Olsson, A. A.

Caryocorbula (*Caryocorbula*) *amethystina* p. 429 pl. 75 figs. 1-1c; Tortutilla, Panama; *C. (Hexacorbula)* *esmeralda* p. 432 pl. 76 figs. 3-3c; Esmeraldas, Ecuador spp. nov., Olsson, A. A.

Corbula gibba community off Roscoff, Cabioch, L.

†*Corbula nanutarraensis* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10, 30 pl. 6 f. 2, Cox, L. R. (1).

†*Cunecorbula arkelli* sp. nov. p. 590 pl. 82 figs. 4a, b; Lower Greensand, Worbarrow Bay, Dorset, Casey, R. (4).

†*Curvirimula* gen. nov. Myalinidae? p. 297, type species *Anthraxomya belgica* Hind 1912, pl. xxxii figs. 45-56; pl. xxxiii figs. 1-17, 31, 33, 34; text-fig. 35a-c; Lower Carboniferous, Britain, also described *C. trapeziforma*, *C. tessellata*, *C. scotica*, *C. valenciensis*, Weir, J.

Cyrtodaria Reuss 1801 (type-sp. *Mya siliqua* Spengler 1793) proposal to be placed on the Official List of Generic Names, Vokes & Cox.

†*Janschinella* subgen. nov. p. 84 of *Lentidium* Christofori & Jan 1832 q.v., Merklin, R. L. (1).

Juliacorbula elenensis sp. nov. p. 438 pl. 77 fig. 5; Santa Elena, Ecuador, Olsson, A. A.

Lentidium (*Corbula*) *mediterraneum* biocoenoses, Mediterranean, Votova, A. (2).

†*Lentidium* (*Janschinella*) subgen. nov. p. 84, type species *L. (J.) garetzkii* sp. nov. p. 84, pl. 9, figs. 1-5; Kokturnak, Aral Sea, Oligocene; *L. (J.) vinogradskii* p. 86 pl. 9 figs. 6-9; Bol'shaya Kostromskaya, Dnepropetrovskaya Prov., Ukraine, Oligocene; *L. (J.) kuzhaisa* p. 87 pl. 9 figs. 10-14; Kuzhaisa, Aral Sea, Miocene spp. nov., Merklin, R. L. (1).

Mya nerve impulses from ganglia, Horridge, G. A.; *M. arenaria* measurements of filter feeding using radioactive algae, Blake, J. W.; *M. arenaria* L. of record size (6½ ins.), Glench, W. J. (3); *M. arenaria* biology, coasts of Britain, Jones, B. W.; *M. arenaria* increasing distribution in Icelandic waters, Óskarsson, I.; *M. arenaria* L. selected bibliography relating to anatomy,

Pätzemeyer & Shuster; *M. arenaria* cellular, thermal and osmotic resistance limits of isolated gill tissue, Reshöft, K.; *M. arenaria* cultivation and economic importance, Turner, H. J. (1); *M. arenaria* development of fisheries in Eastern U.S.A., Turner, H. J. (2); *M. glycymeris* (the oldest available name for the type-species of *Panopea* Ménard de la Groye 1807) Born 1778; *M. siliqua* (type-species of *Cyrtodaria* Reuss 1801) Spengler 1793, proposal to place the specific names on the Official List of Specific Names, Vokes & Cox.

†*Mya cimmaria* sp. nov. p. 63 pl. 1 figs. 17-19; Miocene, Cheghen, Crimea, Andrusov, N. I. (2).

Platyodon (*Austroplatyodon*) *australis* subgen. et sp. nov. p. 424 pl. 76 figs. 6, 6a; Esmeraldas Ecuador, Olsson, A. A.

Serracorbula gen. nov. p. 433 Corbulidae genotype *Serracorbula tumaca* sp. nov. p. 433 pl. 76 figs. 4-4d; Tumaco, Colombia, Olsson, A. A.

†*Sphenia cuneocorbuloidea* sp. nov. p. 33 pl. 4 fig. 8; Eocene, Southern Ukraine, Korobkov, L. A.

GASTROCHAENACEA

Gastrochaena dubia (= *Modiolina*) collected off Arachon, Amanieu & Casaux; *G. (Gastrochaena)* *ecuadoriensis* sp. nov. p. 440 pl. 80 figs. 8, 8a; Punta Montanita near Manglaralto, Ecuador, Olsson, A. A.

†*Gastrochaena pusilla* sp. nov. p. 85 pl. 15 figs. 4-6; Moskva province; Jurassic, European Russia, Gherasimov, A. P.

ADESMACEA

Bankia australis infestation of wood, Cape Campbell, Cook Strait, New Zealand; role of wood in shipworm diet, general notes on environment, Hurley, D. E.; *B. campanellata* requires water current velocity for settling on timber, Nagabhushanam, R. (4); *B. (Bankiella)* *carinata*, *B. (Bankiella)* *consularis*, *B. (Bankiella)* *penna-anseris*, *B. (Lillobankia)* *campanellata*, *B. (L.) stutchburyi*, *B. (Neobankia)* *nordi*, *B. (N.) gracilis*, *B. (N.) rochi*, *B. (Plumulella)* *thielei* and *B. (Bankia)* *bipalmulata*, figs., Sunda Islands and New Guinea, taxonomy, distribution and ecology, Roeh, G. F.; *B. indica* rate of growth, Madras, Nair, N. B.; *B. (Bankiella)* *minima* general account, fig'd., Bate, Masurekar & Bal; *B. (Neobankia)* *roonwali* sp. nov. Sundarbans, West Bengal, India, Rajagopalasingar, A. S.; *B. setacea* comparison of attacks on wood with damage caused by *Limnoria*, Neave, S. L.

†*Bankia lincolniensis* sp. nov. p. 1 figs. 1-3; Oligocene Washington, Durham & Zullo.

Barnea candida maintenance *in vitro* of adult organs, Sengol, P.

†*Barnea fragilis* sp. nov. p. 152 pl. 2 figs. 10, 11; Konkak horizon, Palaeozoic, Beloi river basin, Russian Platform, Pavlinova-Ilyina, L. B.

†*Girardotia suchanovensis* sp. nov. p. 87 pl. 15 fig. 1; Moskva province; Jurassic, European Russia, Gherasimov, A. P.

Hasstia esmeraldensis sp. nov. p. 449 pl. 79 figs. 5, 5a; Esmeraldas, Ecuador, Olsson, A. A.

Jouannetia anatomy and boring, Turner, R. D. (6).

Lignopholas Turner 1955, revision of the genus, *L. clappi* Bluefields, Nicaragua; *L. rivicola* Gunong Tebur, Borneo; figs., nomenclature, Turner, R. D. (5).

Martesia fragilis ciliary currents and histology of associated organs, Srinivasan, V. V. (2); *M. fragilis* method to determine glycogen content, Srinivasan, A.

Krishnaswamy; *M. striata* fatal effect of change in pH, Nagabhushanam, R. (1); *M. striata* influence of chemical composition of sea water on behaviour, Nagabhushanam, R. (2); *M. striata* water current velocity required for settling on timber, Nagabhushanam, R. (4); *M. striata* low salinity causes eventual death of larvae, Nagabhushanam, R. (6); *M. striata*, biochemical studies, fat content of tissues and glycogen concentration, Nagabhushanam, R. (7); *M. striata* and *M. fragilis* nitrogen content in Madras, Srinivasan, V. V. (1).

†*Myopholas mutabilis* sp. nov. p. 86 pl. 11 fig. 4; Moskva river, Moskva province; Jurassic, European Russia, Gherasimov, A. P.

Nausitora dunlopi, *N. hedleyi* and *N. madagassica*, Sunda Islands and New Guinea, taxonomy, distribution and ecology, figs., Roch, G. F.

Nettastomella anatomy and boring, Turner, R. D. (6).

†*Pholas varicosatus* "sp. nov." [in a list] p. 390, Neogene, Russia, Andrusov, N. I. (6).

Teredo, adult anatomy, larval development, boring behaviour, ecology, life cycle, photos, x-rays and figs., Lane, C. E.; *T. (Kuphus) arenaria*, *T. (K.) nannii*, *T. (Bactronophorus) thoracites*, *T. (Ungoteredo) malaccana*, *T. (Teredothyra) indomalacca*, *T. (Coeloteredo) singaporeana*, *T. (C.) renshi*, *T. (C.) bayeri*, *T. (C.) hamletensis*, *T. (Teredo) furcifera*, *T. (T.) australasiatica*, *T. (Spathoteredo) bataviana*, *T. (Uperotus) clava*, *T. (Dactyloteredo) gazellae*, *T. (D.) juttingae*, *T. (D.) dieckmansi*, *T. (Lyrodus) malaccana*, and *T. (L.) milleri* figs., Sunda Islands and New Guinea, taxonomy, distribution and ecology, Roch, G. F.; *T. furcillatus* growth rate, Nagabhushanam, R. (3); *T. furcillatus* requires water current velocity for settling on timber, Nagabhushanam, R. (4); *T. navalis* and *T. pedicellata* initial settling in the Azov Sea, Ryabchikov, Soldatova & Zakova; *T. navalis* spread, boring and distribution in the Kiel Canal, Schütz, L.; *T. navalis* size and O₂ consumption, Soldatova, I. N. (1); *T. navalis* influence of various salinity conditions, Soldatova, I. N. (2); *T. norvegica* ecology, orientation in wood when boring, Deschamps, P.

Xylophaga evidence of boring in the Bay of Bengal, Ganapati & Lakshmana Rao; *X. atlantica*, on the delayed description, Dexter, R. W. (3).

Zirfaea crispata in Orkney, Rendall, R.

PANDORACEA

Anatina asatina ? history of its nomenclature, synonyms suggested, figs. East and West coast specimens compared, Keen, A. M. (1); *A. cyprinus* (Wood 1828) range extension; in 18 fms. south end of Willard Island, San Luis, Gonzaga Bay and at Punta Final, Baja California, Campbell, G. B. (8).

Anomalodesmacea of South Australia, figs., general work, classification and distribution, Cotton, B. C. (2).

†*Burmesia lirata* p. 146 pl. 1 figs. 1a-c; Noric Triassic; Chianguy district NW Szechuan, China, Chen, C.

Cyathodonta undulata peruviana subsp. nov. p. 459 pl. 83 figs. 2-2b; *C. tumbesiana* sp. nov. p. 460 pl. 83 figs. 1a; Tumbes, Peru, Olsson, A. A.

†*Homomya auroarensis* p. 81 pl. 24 figs. 1-3; *H. bellumi* p. 82 pl. 24 fig. 5; pl. 25 figs. 1-3, 5, 6; *H. tlahuahkensis*, p. 83 pl. 25 figs. 4, 7-10; Ojo de Agua, Sierra de Tlahuaillo, Coahuila, Mexico; *H. cymbiformis* p. 83 pl. 26 figs. 1, 2, 5; *H. tarantensis* p. 84 pl. 26 figs. 3, 4, 6-8; Comanchean Tarrant Co., Texas spp. nov. Cretaceous, Perkins, B. F.; *H. (Bureiomya) kempirtubensis* p. 98

pl. 1 figs. 1a, b, c; Kempir-Tyube; *H. (B.) schalkanensis* p. 100 pl. 1 figs. 2a, b, c; *H. (B.) maschrikovi* p. 101 pl. 1 figs. 3, 4, 5a, b, c; *H. (B.) vandobensis* p. 102 pl. 1 figs. 6a, b; pl. 2 figs. 6a, b, c; Vandob; spp. nov. Jurassic, Kempir-Tyube, Turkmenia SSR, Yul'erev, R. F. (4).

†*Linetia* gen. nov. p. 507 of Mactromyidae genotype *Mactromya caumonti* Agassiz 1845 = *Calliope* Rollier 1913 non *Unicardium calliope* D'Orbigny 1850 = *Corbula cardioides* Quenstedt 1852 non Phillips 1839; text-fig. 4; Aalanian to Bajocian, Chavan, A. (1).

†*Liopistha* (*Psilomya*) *turkmenica* sp. nov. p. 78 pl. 2 fig. 1; Cretaceous, central Kopet-Dag, Turkmenia SSR, Aliev, M. M. & R. A. (2).

†*Mactromyella* subgen. nov. of *Mactromyopsis* gen. nov. q.v., Chavan, A. (1).

†*Mactromyidae* critical study, Chavan, A. (1) & (2).

†*Mactromyidae* gen. nov. p. 506 of Mactromyidae genotype *Unicardium hemirhytidum* Cosman 1905 text-fig. 2 Bajocian Jurassic, May-sur-Orne; *Mactromyopsis* (*Mactromyella*) *inflatum* subgen. nov. p. 507, subgenotype *U. inflatum* D'Orbigny 1850 fig. 3, Chavan, A. (1).

Pandora inaequalis embryology and larval stages, short larval life ensures minimum dispersal, Allen, J. A. (2).

†*Pandoracea* from the Jurassic of Kugitang-Tau ridge, Turkmenia SSR, Yul'erev, R. F. (3).

Periploma (*Periploma*) *lagartilla* sp. nov. p. 463 pl. 82 figs. 5-5b; Lagartillo Panama, Olsson, A. A.

†*Pholadomya oviformis* sp. nov. p. 82 pl. 11 fig. 5; Moskva province, Mnevnik; Jurassic, European Russia, Gherasimov, A. P.

†*Pleuromya ashburtonensis* sp. nov. Nanutarra formation, Western Australia, Cretaceous, pp. 10, 28 pl. 5 f. 5, Cox, L. R. (1); *P. egregia* sp. nov. p. 77 pl. 9 figs. 6-8; Moskva province, Voskresenskoye region; Jurassic, European Russia, Gherasimov, A. P.; *P. kelleri* sp. nov. p. 45 pl. 5 figs. 3, 4, 7; Siksikpuk river, northern Alaska, Fortress Mt. formation, Albion, Cretaceous, Imlay, R. W. (2); *P. pcelincevi* sp. nov. p. 102 pl. 2 figs. 1a, b, 2; 3a, b, c; Kizil-Alma; [also on p. 104] *P. pcelincevi* sp. nov. p. 104 pl. 2 figs. 4a, b, c; 5a, b, c; Kempir-Tyube, Jurassic, Turkmenia SSR, Yul'erev, R. F. (4).

†*Prolaria armenica* Robinson sp. nov. p. 92 pl. 13 fig. 5; Trias, Armenia, Vedi-chai river, Kiparisova, L. D.

Thracia anconensis sp. nov. p. 458 pl. 83 figs. 4, 4a; Point Ancon, Ecuador, Olsson, A. A.; *T. deveza* nov. to Icelandic fauna, alive from off Vestmannaeyjar, Óskars-son, I.; *T. papyracea* Poli (= *phaseolina* Kiener) collected off Arcachon, Amanieu & Cazaux; *T. phaseolina* Lmk.; *T. villosiuscula* McGilliv.; *T. pubescens* (Mont.); *T. convexa* (W. Wood) and *T. distorta* confirmed as distinct species, figs., tables, British Isles, Allen, J. A. (1).

†*Thracia proavita* sp. nov. p. 37, text-figs. 12d-f; Triassic, Oman Peninsula, Arabia, Hudson & Jefferies; *T. tschokrakensis* sp. nov. p. 61, pl., figs. 6-8; Venskogho basin, Chokrak deposit, Miocene, Georgia, Russia, Bagdasaryan, K. G.

Thracidentula p. 7, *perulae* p. 8 pl. 1 p. 10 gen. et. sp. nov. in 45 fms. east of Broken Bay, N.S.W., Australia, Garrard, T. A.

CLAVAGELLACEA

Brechites strangulatum photo., shell structure, general ecology, Voss, G. L.

POROMYACEA

Cuspidaria (Cardiomya) ecuadoriana sp. nov. p. 465, pl. 83 fig. 3; *Galeras Ecuador, Olsson, A. A.*

†*Cuspidaria* sp. nov. (in coll.) p. 67 pl. 32 fig. 6; Tertiary Kaluzhskii horizon, Pre-Caucasus USSR, Volkova, N. S.

CEPHALOPODA

Recent

Cephalopoda, major divisions, Flower, R. H. (2); Physiology of reproduction, Galtsoff, P. S.; Methods of fishing for cephalopods in the Mediterranean, Ghirardelli, E.; Checklist from New Zealand, figs., Powell, A. W. B.

Alloteuthis media migration movements, Mediterranean, Mangold-Wirz, K.

Argonauta ontogeny and evolution, Sacarrão, G. F. *Bathypolypus sponalis* general study, Mediterranean, Mangold-Wirz, K.

Chiroteuthis veranyi from the Mediterranean, North and South Atlantic, Adam, W.

Dosidicus gigas locality records, general characters, Phillips, J. B.

Eledone ontogeny and evolution, Sacarrão, G. F.; *E. aldrovandi* and *E. moschata*, economic importance Blanes, Spain, Morales [Seguí], E. (1); *E. cirrosa* and *E. moschata* migration movements, Mediterranean, Mangold-Wirz, K.; *E. cirrosa* sexual maturation study, Morales Seguí, E. (3); *E. moschata* electrophysiological experiments on spectral response of eyes, Orlov & Bysov.

Hapalochlaena maculosa inflicting a poisonous bite—symptoms recorded, McMichael, D. F. (2).

Loligo partial inhibition of the active transport of cations in the giant axons, Caldwell, Hodgkin, Keynes & Shaw; *Loligo* sodium permeability in nerve, Frankenhaeuser, B.; *Loligo* ontogeny and evolution, Sacarrão, G. F.; *L. forbesi* replacement of giant nerve fibre protoplasm with artificial solutions, Baker, Hodgkin & Shaw; *L. forbesi* phosphorus metabolism of axons and Na active transport, Caldwell, P. C.; *L. opalescens*, measurement of cytochrome respiratory pigments, Pablo & Tappel; *L. pealii* techniques for obtaining, dissociating and culturing embryonic cells and organs, Arnold, J. M. (1); *L. pealii* mechanism of cellulation of the egg, Arnold, J. M. (2); *L. pealii* permeability of giant axon to radioactive potassium and chloride ions, Caldwell & Keynes; *L. pealii* figs., fertilization, Davitashvili & Khimshashvili; *L. pealii* melanin biosynthesis in the ink sac, Fitzpatrick, Seiji, Simpson & Szabo; *L. pealii* effect of aconitine on the giant axon, Herzog, W. H.; *L. pealii* optic nerve responses, Wurtz, R.; *L. vulgaris* external anatomy, dissection, general notes and anatomical study, Breeds & Papyn; *L. vulgaris* migration movements, Mediterranean, Mangold-Wirz, K.

Megaleledone gen. nov. p. 297 of *Megaleledoninae* n. subfam. genotype *M. senoi* sp. nov. p. 297 pls. 1-2; text-figs. 1-8, 16; obtained by the "Umitaka-maru" at 630-680 m. depth, 67° 51' S, 33° 13' E in the Antarctic Sea, Taki, I. (2).

Megaleledoninae subfam. nov. p. 297 of *Octopodidae* for *Megaleledone* n. gen. q.v., Taki, I. (2).

Moroteuthis robusta photo., caught off Santa Rosa Island in 200 fms.; other records noted, Phillips, J. B.

Octopus feeding on *Pelamis platurus* and possible toxic effects, Bruggen, A. C. v. (2); *Octopus* ontogeny and evolution, Sacarrão, G. F.; *Octopus* colour photo.,

Topus, O. C.; *Octopus* centres for tactile and visual learning in the brain, Wells, M. J. (3); *Octopus* memory with and without vertical lobes, Young, J. Z. (1); *O. bimaculatus* effect of ryanodine on muscle, Haslett & Jenden; *O. bimaculoides* and *O. bimaculatus* hole drilling in molluscan prey shells, Pilson & Taylor; *O. dofleini* unresponable matter in the liver, Hatano, M.; *O. dofleini* experiments show color vision to be absent, Orlov & Bysov; *O. vulgaris*, Mediterranean N. and S. Atlantic, North Sea; and *O. burryi* Florida Keys and Senegal, Adam, W.; *O. vulgaris* peptidase activity in the alimentary canal, Arvy, L. (1); *O. vulgaris* autofluorescence of pigments, Arvy & Lerma; *O. vulgaris* nerve supply to the muscle layer of the stomach, Botar, J. (1); *O. vulgaris* nerve supply to the stomach epithelium, Botar, J. (2); *O. vulgaris* histochemical study of mucopolysaccharides in the epithelium of the alimentary canal, Capurro, S.; *O. vulgaris* photo. swimming activity, Chlupaty, P.; *O. vulgaris* fertilization fig., Davitashvili & Khimshashvili; *O. vulgaris* statocyst as a rotation receptor, Dijkgraaf, S.; *O. vulgaris* and *O. macropus* cytochrome systems, Martin, A. W.; *O. vulgaris* vitamin B₆ content of extracts, Miyake & Hayashi; *O. vulgaris*, embryonic blastokinesis, Orelli & Mangold-Wirz; *O. vulgaris* sucker display in courtship, Packard, A.; *O. vulgaris* coloration, swimming movements and general ecology, Pfeiffer, W.; *O. vulgaris* retinal orientation and discrimination of polarized light, Rowell & Wells; *O. vulgaris* study of scleroproteins, Stegemann, H.; *O. vulgaris* general ecological study, general relationships and adaptations, Street, P.; *O. vulgaris* laying and hatching of eggs, brooding behaviour of the female, Ververs, H. G.; *O. vulgaris* weight discrimination, Wells, M. J. (1); *O. vulgaris* sensory receptors, behaviour, general habits, reactions to the environment, Wells, M. J. (2); *O. vulgaris* learning and discrimination, Young, J. Z. (2).

Ommastrephes pteropus from the Atlantic coasts of Africa, Adam, W.; *O. sagittatus* nervous supply to the suckers on the sessile arms, Graniadei, P. (2); *O. sagittatus* nervous system in the suckers of tentacle arms, Graniadei, P. (3); *O. sloani pacificus* muscle purine compounds, changes in adenine nucleotides, Arai & Saitō; *O. sloani pacificus* copulation, Oki Islands, Japan, Hamabe, M. (1); *O. sloani pacificus* spawning behaviour, Urugo Bay Oki Islands, Japan, Hamabe, M. (3); *O. sloani pacificus* early embryonic development, morphology of larvae immediately after hatching, Hamabe, M. (3); *O. sloani pacificus* larval structure particularly rhynchoteuthis stage, Hamabe, M. (4); *O. sloani pacificus* isolation of two crystalline proteins from the tropomyosin fraction of mantle muscle, Kubo, S.; *O. sloani pacificus* vitamin B₆ content in extracts, Miyake & Hayashi; *O. sloani pacificus* absence of succinic dehydrogenase in gill cells, Notochin, Khlebovich & Krestinskaya; *O. sloani pacificus* experiments show color vision to be absent, Orlov & Bysov; *O. sloani pacificus* effect of various inhibitors on aerobic glycolysis in muscle extract, Shibata, T.

Ommatostrophes see *Ommastrephes*.

Opisthoteuthis californiana caught off Monterey Bay, general notes, Phillips, J. B.

Pareledone umitaka sp. nov. p. 308 pl. 3, text-figs. 9-16; obtained by the "Umitaka-maru" at 630-680m. depth, 67° 51' S, 33° 13' E in the Antarctic Sea, Taki, I. (2).

Pteroctopus tetracirrhus general study, Mediterranean, Mangold-Wirz, K.

Rossia macrosema and *R. caroli* migration movements in the Mediterranean, Mangold-Wirz, K.

Scaevrus unircirrhus general study, Mediterranean, Mangold-Wirz, K.

Sepia photopotentials of giant axons sensitized to light, Chalazontis & Chagnoux; *Sepia* ontogeny and evolution, Sacarrão, G. F.; *S. bertheloti*, Teneriffe; *S. officinalis* hierredda Angola; and *S. ornata* Angola, East African species collected by the Calypso in 1956, Adam, W.; *S. elegans*, *S. fillioxi* and *S. officinalis* glycogen storage, Martin, A. W.; *S. esculenta* extracts vitamin B₂ content, Miyake & Hayashi; *S. esculenta* and *S. subaculeata* successful rearing in tanks, fed on live *Neomysis*, Ohshima & Sang; *S. officinalis* autofluorescence of pigments, Arvy & Lerma; *S. officinalis* functional organization of the brain, Boycott, B. B.; *S. officinalis* phosphorus metabolism of axons and Na active transport, Caldwell, P. C.; *S. officinalis* buoyancy, Denton & Gilpin-Brown (1); *S. officinalis* effect of light on buoyancy, Denton & Gilpin-Brown (2); *S. officinalis* distribution of gas and liquid in cuttlebone, Denton & Gilpin-Brown (3); *S. officinalis* osmotic mechanism of cuttlebone, Denton, Gilpin-Brown & Howarth; *S. officinalis* nervous system, oral lip, Graziadei, P. (1); *S. officinalis*, *S. elegans* and *S. orbignyana* migration movements, Mediterranean, Mangold-Wirz, K.; *S. officinalis* colorimetric study of vision, Orlov & Bykov; *S. officinalis* coloration, swimming movements and general ecology, Pfeiffer, W.; *S. officinalis* study of scleroproteins of cuttlebone, Stegemann, H.; *S. subaculeata* and *S. esculenta* carbonic anhydrase activity in tissues, Shimizu & Fukuhara.

Sepioidium malayense taken in plankton samples off Singapore Island, Wickstead, J. H.

Sepiella maindroni successful rearing in tanks, fed on live *Neomysis*, Ohshima & Sang.

Sepiella oweniana migration movements, Mediterranean, Mangold-Wirz, K.

Sepiella ontogeny and evolution, Sacarrão, G. F.; *S. atlantica* fig. fertilization, Davitashvili & Khimshiashvili.

Sepiolina nipponensis from Suruga Bay, production of luminous secretion, morphology and histology of organ producing this secretion, and biochemistry of secretion, Haneda, Y.

Sepioteuthis lessoniana vitamin B₂ content of extracts, Miyake & Hayashi; *S. lessoniana* rearing in tanks, fed on mysids, Ohshima & Sang; *S. lessoniana*, figs. embryonic development and growth, Sang & Ohshima.

Todaropsis eblanae exceptional quantities of this southern species found in Scottish waters, Rae, B. B.

Tremoctopus ontogeny and evolution, Sacarrão, G. F.

Fossil

Cephalopoda, atlas of the Triassic fauna of the U.S.S.R., Kiparisova, L. D.; Atlas of leading forms from the Jurassic of U.S.S.R., Krimholz, G.

NAUTILOIDEA

Nautiloidea, Carboniferous distribution in Arkansas, Gordon, M., jr.; Systematics and general study, Shimansky & Zhuravleva; Phylogeny of spiral nautiloids, Stumbur, H.

Gorgonoceras gen. nov. p. 93 [no family, or affinities given] type sp. *G. visendum* sp. nov. p. 93 pl. xii fig. 1; Central Urals, Sverdlovskaya Province, Zhuravleva, F. A. (1).

Hunanoceras gen. nov. p. 9, 35 [no family given] genotype *H. globosum* sp. nov. p. 9, 36 pl. 3, figs. 9-15; Permian, Tanchiashan, Hunan, China, Chao, K.-K.

Tanchiashanites gen. nov. p. 11, 39 [no family given] genotype *T. marginalis* sp. nov. p. 12, 39 pl. 5, figs. 3-7; Permian, Tanchiashan Hunan China, Chao, K.-K.

Tienoceras gen. nov. pp. 4, 28 [no family given] pl. 1 fig. 1; Permian Tanchiashan, Hunan China, genotype *T. lenticulare* sp. nov. pp. 4, 28, Chao, K.-K.

Subclymenia doughensis p. 634 pl. 27 f. 2-5, Dough Mt., Co. Leitrim; *S. cashelensis* p. 635 pl. 27 f. 6-8, Cashel, Co. Fermanagh; spp. nov. Visean, Ireland, [affinities not known, Nautilida?], Ramsbottom & Moore.

ELLESMEROCERATIDA

Ellesmeroceratida, first nautiloid of this order, found in the Pre-Palaeozoic Pechenga series of the Kola peninsula, Lyubtsov, V. V.

Palaeoceras gen. nov. p. 7 Plectonoceratidae genotype *Palaeoceras mutabile* sp. nov. p. 10 pl. 1 figs. 5, 9-10; pl. 2 fig. 11; pl. 3; text-figs. 1A-F, 2A-B; San Saba limestone, Cambrian, Gillespie Co., Texas, Flower, R. H. (1).

Plectonoceratidae revision of the family, at present contains *Plectonoceras*, *Palaeoceras*, *Sinoeremoceras* and *Multicameroceras*, Flower, R. H. (1).

Ruthenoceras (= *Angaroceras*) from the Cambrian, taxonomic position uncertain, belongs either to Plectonoceratidae or Ellesmeroceratidae, Flower, R. H. (1).

Shelbyoceras Ulrich and Foerste 1930, query as to validity of taxonomic position and suggested removal from the Cephalopoda; *S. ellinwoodi* p. 28 pl. 2 figs. 1-3; *S. barnesi* p. 29 pl. 2 figs. 7-10; spp. nov. Trempealeauan age Cambrian, Gillespie Co., Texas, Flower, R. H. (1).

Stylocyrtoceras annulatum sp. nov. p. 373 pl. 51 f. 12-14, Johnson City area, Central Texas, U.S.A. Honeycut, Ordovician, Unklesbay, A. G. (2).

ENDOCERATIDA

Cyrtocyrtendoceras gen. nov. p. 31, Cyrtendoceratidae, genotype: *Cyrtendoceras estoniense* Foerste, 1932, Estonia, lower Ordovician, Balashov, Z. G. (1).

Endoceratoidea systematics and general study, Shimansky & Zhuravleva.

Evenoceras gen. nov., Endoceratoidea, Intejoceratidae fam. nov. Lower Ordovician, U.S.S.R., Balashov, Z. G. (2).

Intejoceras gen. nov., Endoceratoidea, Intejoceratidae fam. nov. Lower Ordovician, U.S.S.R., Balashov, Z. G. (2).

Intejoceratida ord. nov. p. 32, Endoceratoidea; to include Intejoceratidae Balashov 1960 and Padunoceratidae Balashov 1960, Ordovician, Balashov, Z. G. (1).

Intejoceratidae fam. nov. for *Intejoceras* and *Evenoceras* gen. nov. q.v.; Endoceratoidea, Balashov, Z. G. (2).

Padunoceratidae fam. nov. for *Padunoceras* gen. nov. Lower and mid Ordovician, U.S.S.R., Balashov, Z. G. (2).

Rossicoceras gen. nov. p. 31, Endoceratidae, genotype: *Endoceras hasta* Eichwald 1860, Estonia, upper Ordovician, Balashov, Z. G. (1).

ACTINOCERATIDA

Actinoceratoidea evolution in the Carboniferous, Shimansky, V. N. (3); Systematics and general study, Shimansky & Zhuravleva.

Armenoceras cfr. *chediforme* Ordovician, Thailand, Kobayashi, T. (1); *A. ottawaense* p. 58 sp. nov. pl. 12 fig. 1; Dow's Lake, Ottawa, Ontario, Ordovician, Wilson, A. E.

Ordosceras huguenense (sp. nov.) pp. 42, 49 pl. 1 fig. 1; Mongolia; *O. ordosense* sp. nov. pp. 43, 49 pl. 1 fig. 3; Ordovician, Mongolia, Chang, Z.-D.

Ormoceras sp. Ordovician, Thailand, Kobayashi, T. (1); *O. crassum* p. 68 pl. 27 fig. 7; Gloucester, Ontario; *O. obscurum* p. 68 pl. 27 figs. 8, 9; Paquette Rapids, Ottawa River; spp. nov. Ordovician, Canada, Wilson, A. E.

Polydemia changkiunensis (sp. nov.) pp. 45, 52 pl. 3, fig. 1; Changkiu, China, Ordovician, Chang, Z.-D.

Rayonoceras fainae sp. nov. p. 38 pl. 2 fig. 1; Carboniferous, Russia, Shimansky, V. N. (3).

MICHELINOCERATIDA

Anaspyroceras ? *giganteum* sp. nov. p. 29 pl. 7, figs. 4, 5; Gloucester, Ontario, Ordovician, Wilson, A. E.

Arthrophyllum Beyrich (1850) general study, *A. kahlebergense* and *A. crassum* Devonian, Sea of Marmara, Turkey, Teichert, C. (2).

Cycloceras hsiangtanense sp. nov. pp. 4, 27, pl. 1 fig. 3; Permian, Tanchiashan Hunan China, Chao, K.-K.

Deirotoceras persimile sp. nov. p. 72 pl. 28 figs. 3, 4; Ottawa, Ontario, Ordovician, Wilson, A. E.

Dnestroceras gen. nov. p. 56 of Pseudorthoceratidae, genotype *D. incertum* sp. nov. p. 57 pl. 6 fig. 5; R. Seret, Podolia, Ukraine, Silurian, Zhuravleva, F. A. (2).

Eridites gen. nov. p. 55 of Pseudorthoceratidae; genotype *E. astrovae* sp. nov. p. 56 pl. 6 fig. 1; R. Dnestra Podolia, Ukraine, Silurian, Zhuravleva, F. A. (2).

Goryoceras ? *latianulatum* p. 37 pl. 10 fig. 6; Fifth Avenue, Ottawa; *G. perovale* p. 37 pl. 10 fig. 1; Sussex St., Ottawa; *G. tetraevale* p. 38 pl. 10 figs. 2-5; Val Tetreau, Quebec, spp. nov. Ordovician, Canada, Wilson, A. E.

Grypoceras ussuriense Kiparisova (in litt.) p. 126 pl. 25 fig. 1; Ussuri U.S.S.R., Trias, Kiparisova, L. D.

Lamellorthoceras Termier and Termier (1950) general study, systematics Devonian, Turkey, Teichert, C. (2).

Lamellorthoceratidae fam. nov. of Michelinoceratida p. 106, to include *Lamellorthoceras* Termier & Termier 1950 and *Arthrophyllum* Beyrich 1850; Devonian and Carboniferous, Morocco, Algeria, France, Germany and Turkey, Teichert, C. (2).

Leurthoceras ottawaense sp. nov. p. 58 pl. 12, figs. 2, 3; Fifth Avenue, Ottawa, Ontario, Ordovician, Wilson, A. E.

Metaspyroceras ? *acuticostatum* p. 31 pl. 8 figs. 12, 13; Rochester, Ontario; *M. insuetum* p. 31 pl. 8, figs. 6, 7; text-fig. 1; Sussex St., Ottawa; *M. ? porcatum* p. 32, pl. 8 figs. 10, 11; Fifth Avenue, Ottawa spp. nov. Ontario, Ordovician, Wilson, A. E.

Michelinoceras michelini, *M. severum*, *M. transiensis*, *M. cf. amatum* (Barr.) and *M. cf. stiloideum* (Barr.) Ordovician and Silurian, Akbaital region, E. Pamir, U.S.S.R., Karapetov, S. S.

Monomuchites gen. nov. p. 23 of ? Michelinoceratidae, genotype *Monomuchites costalis* sp. nov. p. 24 pl. 5 figs. 5, 6; Merivale Rd., Ontario; Ordovician, Wilson, A. E.

Mooreoceras normale, Pennsylvanian Carboniferous, Oklahoma, Unklesbay, A. G. (1).

Metichinoceratidae gen. nov. p. 39 of Loxoceratidae, genotype *M. mirabile* sp. nov. p. 39 pl. 2 fig. 5; Kaluzhskaya Province, Russia, Carboniferous, Shimansky, V. N. (3).

Orthoceratites Lamarck 1799, is suppressed and placed on the Official Index of Rejected Generic Names, Opinion 613.

Protokionoceras ? *hullense* sp. nov. p. 28 pl. 6, figs. 1-3; Hull, Quebec; Ordovician, Wilson, A. E.

Triptoceras ? *lautum* sp. nov. p. 79 pl. 30 figs. 10-12; Percy Street and Fifth Avenue, Ottawa, Ontario, Ordovician, Wilson, A. E.

ASOCERATIDA

Asoceratida comparison of Cambrian genera, Flower, R. H. (1).

Billingsites noquettensis sp. nov. p. 89 pl. 1 figs. 1-15; pl. 2 figs. 1-9; Ordovician Delta Co., Michigan; cephalopod buoyancy, mode of life, ontogeny, truncation and development, Keeling, R. V.

Fremontoceras decursum sp. nov. p. 106 pl. 33, pl. 34, fig. 7; Gloucester, Ontario, Ordovician, Wilson, A. E.

Probillingsites foerstei sp. nov. p. 105 pl. 35 figs. 9-12; Eastview, Ontario, Ordovician, Wilson, A. E.

ONOCERATIDA

Argocheilus nom. nov. p. 128 pro *Argoceras* Steinmann 1925 (*Argocheilus chinense* = *Argoceras chinense*), Shimansky, V. N. (2).

Beloitoceras obesum p. 85 pl. 34 figs. 8, 9; Mechanicsville, Ottawa; *B. ottawaense* p. 86 pl. 32 figs. 1, 2, Fifth Avenue, Ottawa, Ontario, Ordovician spp. nov., Wilson, A. E.

Diostoceras abruptum sp. nov. p. 99 pl. 29 figs. 8, 9; Nepean Point, Ottawa, Ontario, Ordovician, Wilson, A. E.

Onoceras ? *scalariforme* sp. nov. p. 88 pl. 31 figs. 10, 11; Paquette Rapids, Ottawa River, Ordovician, Wilson, A. E.

Paroocerinina gen. nov. p. 57 of Oocerinidae, genotype *P. podolskensis* sp. nov. p. 58 pl. 6 figs. 2-4; Podolia Ukraine, Silurian, Zhuravleva, F. A. (2).

Zitteloceras depressum sp. nov. p. 94 pl. 32 figs. 17, 18; Sherman Fall, Canada, Ordovician, Wilson, A. E.

DISCOSORIDA

Cyrtoceras manitobense (type-sp. of *Westonoceras* Foerste 1924) specific name, Whiteaves 1890, placed on Official List, Opinion 593.

Westonoceras Foerste 1924, placed on Official Index of Rejected Generic Names and ruled an invalid original spelling of *Westonoceras*, Opinion 593.

Westonoceras (emend. under the plenary powers of *Westonoceras*) Foerste 1924, by original designation *Cyrtoceras manitobense* Whiteaves 1890, placed on the Official List of Generic Names, Opinion 593; *Westonoceras*, Ordovician, Argentina, Borrello, A. V.

Westonoceratidae Teichert 1933 (type-genus *Westonoceras* Foerste 1924) placed on Official List of Family-Group Names, Opinion 593.

RUTOCERATIDA

Aulamacoceras binodorum sp. nov. pp. 10, 36, pl. 4 figs. 1-6; Permian, Tanchiashan Hunan, China, Chao, K.-K.

Charactoceras normale sp. nov. p. 82 pl. 25 figs. 1-4; Booth St., and Elm St., Ottawa, Ontario, Ordovician, Wilson, A. E.

Endolobus obsoletus pp. 6, 29, pl. 1 figs. 5-8; *E. asiangtanensis* pp. 6, 30, pl. 1 fig. 4; spp. nov. Permian Tanchiashan, Hunan, China, **Chao, K.-K.**

Knighthoceras loughphantaensis sp. nov. p. 639 pl. 30 f. 2-6, Dough Mt., Co. Leitrim, Ireland. Viséan, Carboniferous, **Ramsbottom & Moore.**

Mosquoceras ischernychevii shimanskii subsp. nov. p. 159 text-figs. 1, 2; Moskovskaya Province, Podolski horizon, **Kalandszse, N. N.**

Tatinoceras hunanense pp. 8, 33, pl. 3 figs. 1-4; *T. changlingpuense* pp. 8, 34; pl. 3 figs. 5-8; Permian Tanchiashan Hunan China spp. nov., **Chao, K.-K.**

Temnocheilus multituberculatus latinodorus var. nov. pp. 10, 37, pl. 4 figs. 13-15; Tanchiashan, Hunan, China, Permian, **Chao, K.-K.**

CENTROCERATIDA

Epistroboceras kathleenae sp. nov. p. 637 pl. 29 f. 1, Dough Mt., Co. Leitrim, Ireland. Viséan, Carboniferous, **Ramsbottom & Moore.**

†*Mosquoceras* see under Rutoceratida.

Stroboceras evansi sp. nov. p. 638 pl. 28 f. 6, 7, Dough Mt., Co. Leitrim, Ireland. Viséan, Carboniferous, **Ramsbottom & Moore.**

SOLENOCHILIDA

Solenochilus ? auriculus sp. nov. pp. 15, 44, text-fig. 1; pl. 5, figs. 16-17; Permian, Tanchiashan, Hunan, China, **Chao, K.-K.**

NAUTILIDA

Aturia yokoyamai figs., giant specimen from Karatsu coalfield, North Kyushu, Tertiary, **Kobayashi & Inoue.**

Cenoceras truncatus vadaszi subsp. nov. p. 325 text-fig., Szentgál, Tüzköves Hill, Bakony Mts., Transdanubia Hungary, **Plönsbachian Lias, Gécsy, B.**

Deltoidonautilus falloti sp. nov. p. 232 pl. 18 fig. 11; Montian Cretaceous, Gannour Morocco, **Salvan, H.**

Ephippioceras involutum pl. 14, 42, pl. 5 figs. 12-15; *E. hunanense* pp. 14, 43, pl. 5 figs. 8-9; spp. nov. Permian, Tanchiashan China, **Chao, K.-K.**; *E. spirale* sp. nov. p. 632 pl. 29 f. 5. Dough Mt., Co. Leitrim, Ireland. Viséan, Carboniferous, **Ramsbottom & Moore.**

Eutrophoceras eyerdami sp. nov. p. 533 pl. 73 figs. 1-6; Cowlitz River, Lewis Co., Washington, Eocene, **Palmer, K. V. W. (1).**

Hadrocheilus dibrarensis sp. nov. p. 162 text-fig. 2; Dibrar, SE Caucasus, Lower Cretaceous, **Aliev, R. A. (3).**

Hercoglossa ulrichi and *H. sp.* (similar to *H. tuomeyi*) figs. Tehuacana Creek, Texas, Paleocene, **Kellough, G. R.**

Leptocheilus gilgilensis sp. nov. p. 161, R. Gilgil, SE Caucasus, Lower Cretaceous text-fig. 1, **Aliev, R. A. (3).**

Liroceras leitrimense sp. nov. p. 631 pl. 29 f. 4, 6. Dough Mt., Co. Leitrim, Ireland. Viséan, Carboniferous, **Ramsbottom & Moore**; *L. orientale* sp. nov. pp. 13, 41 pl. 5 figs. 1-2; Permian, Tanchiashan, Hunan China, **Chao, K.-K.**

Longocapuchones belbekensis sp. nov. p. 245 pl. 8 figs. 4a, b; Crimea, River Belbek, Cretaceous, **Drushchits & Kudryavtsev.**

Nautilus pompilius, *N. moretoni*, *N. umbilicatus* and *N. macromphalus* palaeontological investigations, **Shimansky, V. N. (4).**

Periploeceras heslyuchiani sp. nov. pp. 15, 44 pl. 6 figs. 5-6; Permian, Tanchiashan Hunan, China, **Chao, K.-K.**

Syrionautilus paralibanoticus sp. nov. p. 127 text-fig. 1; Maastrichtian; Don basin, Russia, **Shimansky, V. N. (1).**

Woodringia splendens figs. Paleocene, Tehuacana Creek, Texas, **Kellough, G. R.**

AMMONOIDEA

Functional significance of ammonite septa, **Chernov, A. A.**; Index of characteristic fossils from Madagascar, **Collignon, M. (1)**; Life history and mode of life, trails left in Solnhofener shales, **Kolb, A.**; Shell strength, protection and hydrostatic role; growth study, **Rangheard & Théobald (1)**; Systematics and general study, **Shimansky & Zhuravleva**; From the Cretaceous of the Gulf Coast, U.S.A., **Young, K. (2).**

APTCHYCHUS

Lamellaptychus from the Mesozoic of Val Baganza, Italy, **Zanucchi, G.**

Punctaptychus from the Mesozoic of Val Baganza, Italy, **Zanucchi, G.**

OLYMENIDA

Acanthocolymenia neapolitana Hyatt 1900 (in Eastman-Zittel) = *Manticoceras neapolitanum* Clarke 1892, **House, M. R.**

Acanthocolymenidae Schindewolf synonym of *Gephuroceratidae*, **House, M. R.**

Cyrtocolymenia tenuicostata p. 39 text-fig. 4C; pl. 7 figs. 3, 4-4a, 8-8a, 12; *C. ventriosa* p. 41 text-fig. 4E; pl. 6 figs. 5-6a, 12-12a, 15-15a; pl. 7 figs. 18-18a; *C. stenomphala* p. 42 text-fig. 4D, pl. 6 fig. 4; pl. 7 figs. 7-7a, 13-13a; spp. nov. *C. engelbergensis crassa* var. nov. p. 43 text-fig. 4H pl. 6 figs. 13, 16-16a; pl. 7 figs. 6-6a; *C. lenticularis* sp. nov. p. 44 text-fig. 4A; pl. 7 figs. 15-15a; Saoura Valley, Ouarghouth Sahara, Devonian, **Petter, G.**

Platycolymenia richteri semperornata var. nov. p. 25 pl. 4 figs. 6-6a, 11-11a; Erfoud, Tafilalet; *P. geministata* sp. nov. p. 26, pl. 5, figs. 6-6a; Saoura Valley, Ouarghouth; *P. ruedemanni semiornata* var. nov. p. 27 pl. 5 figs. 12-12a; Erfoud, Tafilalet; Devonian, Sahara, **Petter, G.**

Trochocolymenia ornata sp. nov. p. 34 pl. 3 figs. 1-1c, 2-2a, 4-4a, 7-7a, 8-8a; Saoura Valley, Marhouma Sahara, Devonian, **Petter, G.**

AMMONITIDA

GONIATITINA

Agastrioceras carinatum zone in the Andenne-Huy coalfield, **Lambrecht & Leckwijk.**

Anetoceras adolens sp. nov. p. 100—correction to a list of Ferronnière 1920 Bull. Soc. Sci. nat. Ouest Nantes (3) 6 pl. 1 figs. 36, 37, also in the Grange fauna. **Erben in Erben, Lardoux, Lys, Pillet et al.**

Augurites gen. nov. p. 67 of *Auguritidae* fam. nov. q.v. genotype *Augurites mirandus* sp. nov. p. 67 pl. 7 figs. 4, 5; text-fig. 5; Eifelian Devonian, Urals, U.S.S.R., **Bogoslovsky, B. I.**

Auguritidae fam. nov. p. 66 of *Auguritina* subord. nov. q.v. for *Augurites* gen. nov. q.v. Devonian, Urals, **Bogoslovsky, B. I.**

Auguritina subord. nov. p. 66 of *Agoniatitina*, Devonian, Urals for *Augurites* gen. nov. q.v. and *Auguritidae* fam. nov. q.v., **Bogoslovsky, B. I.**

Bactritoides systematics and general study, **Shimansky & Zhuravleva.**

Beyrichoceras malladae comb. nov. p. 49, Puente de Alba, Léon. NW Spain, Carboniferous, **Wagner-Gentis, C. H. T.**; *B. micronotum* general note, **Zakowa, H.**

Carinoceras gen. nov. of Ammonoidea p. 199, genotype *C. menneri* sp. nov. p. 199 pl. 2 figs. 1, 2a, b; Vezha-Vozh river, Devonian, Russian platform, **Lyashenko, G. P.** (1).

Cluthoceras neilsoni aralensis "var. nov." and *C. involutus* "sp. nov." Currie [table facing p. 497] Carboniferous, Sahara, **Pareyn, C.** (2).

Cravenoceras holmesi photo., Carboniferous, Belgium, **Bouckaert, J.**

Cyrtobactrites "nov. gen. sp." p. 100 Grange (Maine-et-Loire), **Erben in Erben, Lardeux, Lys, Pillet et al.**

Dimorphoceras (*Metadimorphoceras*) *pseudodiscrepans* general note, **Zakowa, H.**

Eepicanites dangeardi "nov. sp." H. Schmidt [table facing p. 497] Carboniferous, Sahara, **Pareyn, C.** (2).

Eoparalegoceras clariondi Carboniferous, Sahara, **Deleau, P.**

Eumorphoceras morphology, **Quinn, J. H.**; *E. medusa* sp. nov. p. 54 pl. 6 figs. 1, 2; Slieve Anierin, Co. Leitrim; *E. m. sinuosum* var. nov. p. 56 pl. 6 figs. 4, 5; *E. rota* sp. nov. p. 57 pl. 6 figs. 6, 7; Namurian, Carboniferous, Co. Leitrim, Ireland, **Yates, P. J.**; *E. pseudobilingue* and *E. bisulcatum* photos., Carboniferous, Belgium, **Bouckaert, J.**

Gastrioceras listeri, *G. circumnodosum*, *G. subcrenatum*, *G. crenulatum*, *G. cumbriense* and *G. crenulatum* zones in the Andenne-Huy coalfield, Belgium, **Lambrechts & Leckwijck**; *G. weristerense*, *G. crenulatum*, *G. cumbriense* and *G. subcrenatum* photos., Carboniferous, Belgium, **Bouckaert, J.**

Goniatis (*Goniatis*) *crenistris mediterraneus* subsp. nov. p. 283 text-figs. 9d, 10a; pl. 21 figs. 1a-c; Montó Mts., (León Province); *G. (G.) stenumbilicatus* sp. nov. p. 290 pl. 21 figs. 2-5; text-figs. 9a-c, 10c-d; Esala Mts. (León Province) *G. (G.) s. globiformis* subsp. nov. p. 294 pl. 22 figs. 4a-b; Revilla de Santullán Barruelo Mt. (Palencia Province); *G. (G.) granofalcatus* sp. nov. p. 305 text-figs. 10f, 11b; pl. 22 figs. 1-2; Montó Mts. (León Province); *G. (G.) granosus occidentalis* subsp. nov. p. 301 text-figs. 10e; pl. 23 figs. 1a-b; Montó Mts. (León Province); *G. (G.) barroisianus* sp. nov. p. 303 text-fig. 11c; pl. 23 figs. 4a-b; Montó Mts. (León Province); *G. (G.) (Girtyoceras) palentinus* p. 314 text-figs. 10b, 12a-b; pl. 23 figs. 3a-b; Revilla de Santullán (Palencia Prov.); *G. (Neoglyphioceras) montensis* p. 317 text-fig. 11e; pl. 23 figs. 2a-b; Montó Mts. (León Province); sp. nov. Carboniferous Spain, **Kullmann, J.**; *G. crenistris* Górno Święty Krzyż Mts., Carboniferous **Zakowa & Pawłowska**; *G. (Mesoglyphioceras) granosus dilatatus* p. 200, Teniet el Aoudja and Mouizeb Reouien; *G. (M.) g. aciculare* p. 201, Col de Djenien, Djebel Abiod and Ben-Zireg, Sahara vars. nov. Carboniferous, **Pareyn, C.** (1); *G. maximus saourensis* "var. nov." Bisat [table facing p. 497], Carboniferous, Sahara, **Pareyn, C.** (2).

Gyroceratites (*Lamelloceras*) *dorsolamelatus armoricus* "subsp. nov." p. 100, Grange; *G. (L.) angulatus* "sp. nov." p. 100, Grange (Maine-et-Loire), Palaeozoic; *G. (Lamelloceras) angulatus subgen et sp. nov.* p. 100—correction to a list of Ferrière 1920, Bull. Soc. Sci. nat. ouest Nantes (3) 6 pl. 2 figs. 44, 457, **Erben in Erben, Lardeux, Lys, Pillet et al.**; *G. (Gyroceratites) glaber* sp. nov. p. 61 pl. 7 fig. 1; Urals, Eifelian Devonian, U.S.S.R., **Bogoslovsky, B. I.**

Homoceras beyrichianum, *H. subglobosum*, *H. moorei*, *H. smithi*, *H. striolatum*, *H. henkei*, *H. magistrorum* and *H. aff. eostriolatum*, photos., Carboniferous, Belgium, **Bouckaert, J.**

Homoceratoides prereticulatus, *H. demaneti*, *H. variatus*, *H. divaricatus* and *H. fortelifer* photos., Carboniferous, Belgium, **Bouckaert, J.**

Hudonoceras proteum and *H. ornatum*, photos., Belgium, Carboniferous, **Bouckaert, J.**

Laganites gen. nov. p. 62 of Mimagoniatitidae, genotype *L. tenuis* sp. nov. p. 63 pl. 7 fig. 2; Eifelian, Devonian; Urals U.S.S.R., **Bogoslovsky, B. I.**

Latanarcestes kavvensis sp. nov. p. 68 text-figs. 6, 7; R. Kakvi Urals, U.S.S.R., Eifelian Devonian, **Bogoslovsky, B. I.**

Manticoceras solazevi p. 196 pl. 2 figs. 3a, b; Vezha-Vozh river; *M. lyaiolensis* p. 197 pl. 2 figs. 4a, b; River Lyaiol; *M. affineformis* p. 198 pl. 3 figs. 1a, b; Yuzhnyi-Timan; spp. nov. Devonian Russian Platform, **Lyashenko, G. P.** (1).

Merocanites applanatus bicarinatus "var. nov." Frech and *M. ogivalis* "nov. sp." Sowerby; [table facing p. 497] Carboniferous, Sahara, **Pareyn, C.** (2).

Mesoglyphioceras granosus dilatatus and *M. g. aciculare* "vars. nov." Portlock [table facing p. 497], Carboniferous, Sahara, **Pareyn, C.** (2).

Metalegoceras sp. nov. p. 709 pl. 83 fig. 9; text-fig. 9; Lyons River Station Carnarvon Basin, W. Australia, Permian, **Glenister & Furnish.**

Mimagoniatites obesus "sp. nov." p. 101, Grange (Maine-et-Loire) Palaeozoic, **Erben in Erben, Lardeux, Lys, Pillet et al.**

Muensteroceras latumbilicatum sp. nov. p. 266 text-figs. 7d, 8a; pl. 19 figs. 1a-c; Peña Roscas (León province) Spain, Viséan Carboniferous, **Kullmann, J.**

Nautellipsites hispanicus comb. nov. p. 49, Upper Viséan, Carboniferous, Villabellaco, Palencia Prov., Spain, **Wagner-Gentis, C. H. T.**

Neoglyphioceras subcirculare globosa and *N. s. ben-ziregensis* "vars. nov." Miller [table facing p. 497], Carboniferous, Sahara, **Pareyn, C.** (2).

Nomismoceras germanicum Górno Święty Krzyż Mts., Carboniferous, **Zakowa & Pawłowska.**

Palaeogoniatis janus "sp. nov." p. 101 Grange (Maine-et-Loire) Palaeozoic, **Erben in Erben, Lardeux, Lys, Pillet et al.**

Parentites gen. nov. p. 64 of Mimagoniatitidae genotype *P. praecursor* sp. nov. p. 64 pl. 7 fig. 3; Eifelian, Devonian; Urals, U.S.S.R., **Bogoslovsky, B. I.**

Praedaracelites praecursor saharensis "var. nov." Fromaget [table facing p. 497] Carboniferous, Sahara, **Pareyn, C.** (2).

Prolecanites cf. serpentinus Górno Święty Krzyż Mts., Carboniferous, **Zakowa & Pawłowska.**

Pseudobactrites pénéau "sp. nov." p. 100, Emsian, Grange (Maine-et-Loire), **Erben in Erben, Lardeux, Lys, Pillet et al.**

Reticuloceras adpressum, *R. wrighti*, *R. metabilingue*, *R. bilingue*, *R. gracile*, *R. subreticulatum*, *R. stubblefieldi*, *R. nodosum*, *R. gulinski*, *R. circumplexum*, *R. regularum*, *R. umbilicatum*, *R. hodsoni*, *R. todmordenense*, *R. paucicrenulatum*, *R. aff. compressum* and *R. superbilingue* photos., Carboniferous, Belgium, **Bouckaert, J.**; *R. superbilingue* zone in the Andenne-Huy coalfield, **Lambrechts & Leckwijck.**

Sellanarcestes wenkenbachi figs. Devonian Rich-Tamellouaft, SW of Aoufnet-Torkoz, Morocco, **Holland, H.**

Sinotites gen. nov. pp. 181 (187) of Sinotitidae fam. nov. q.v.; genotype *Sinotites sinensis* sp. 181 (188) pl. 1 figs. 1a-d; Taminshan formation Devonian; Mei-tou-ho, *S. multiseptata* sp. 182 (189) pl. 1 figs. 2a-f, Famennian formation Devonian; Pie-cu; Great Khingan, Inner Mongolia spp. nov., Chang, A.

Sinotitidae fam. nov. pp. 181 (187) of Cheiloceratidae for *Sinotites* and *Sinotites* gen. nov. q.v. Devonian Great Khingan, Inner Mongolia, Chang, A.

Sunites gen. nov. pp. 183 (190) of Sinotitidae fam. nov. q.v. genotype *Sunites suni* sp. 183 (190) pl. 1 figs. 3a-g; *S. cyclicus* sp. 184 (191) pl. 1 figs. 4a-h; spp. nov. Taminshan formation, Devonian; Pie-cu, Mei-tou-ho, Great Khingan, Inner Mongolia, Chang, A.

Teichericeras (*Convoluticeras*) *lardeuxi* "n. gen. subgen. st. sp." p. 101, Grange (Maine-et-Loire) Palaeozoic, Erben in Erben, Lardeux, Lys, Pillet et al.

Tumarceras gen. nov. p. 57 of Paragastrioceratidae genotype *T. yakutorum* sp. nov. p. 59 text-figs. 6-8; Permian, R. Tumara, Verkhoyansk basin, Yakutsk region, Russia, Ruzhentsev, V. E.

Wewokites gen. nov. p. 290, Gastrioceratidae genotype *Gastrioceras venatum* Girty 1911, p. 290 text-fig. 1; resembles *Bisatoceras*, *Gonioglyphiceras*, *Pennoceras*, *Pygmaeceras* and *Wiedeyoceras*, Oklahoma, Desmoinesian, Carboniferous, Furnish & Beghtel.

CERATITINA

Amphipopanoceras Voinova (in litt.) p. 129, of *Popanoceras* q.v., Kiparisova, L. D.

Anakashmirites borealis sp. nov. p. 63 pl. 14, nos. 1a-6c; Ellesmere Island between Hare and Otto Fiords, Arctic Archipelago, Trias, Tozer, E. T.

Anasibirites gracilis sp. nov. p. 164 pl. 39 figs. 3; 4; text-figs. 60, 61; Mangyshlak, U.S.S.R., Trias, Kiparisova, L. D.

Arctoceras blomstrandii (Lindström) is the only species of *Arctoceras* contained in the *Posidonomya* beds of Spitzbergen (Triassic); all the remaining species are either immature forms or morphological variants of a variable species group, Kummel, B.

Arctosirenites gen. nov. p. 81, Trachyceratidae type species *A. canadensis* sp. nov. p. 82 pl. 24 nos. 1a-5c; pl. 25 nos 1a-11b; Buchanan Lake, Axel Heiberg Island, Arctic Archipelago, Trias, Tozer, E. T.

Ceratites blomstrandii Lindström 1865, illustration of primary type from Midterhuk, also of the following primary types:—*C. polaris* Mojsisovics 1886, Isfjord, Kolonie; *C. simplex* Mojsisovics 1886, Isfjord-Kolonie; *C. whitei* Mojsisovics 1886, Isfjord-Kolonie; *C. öbergi* Mojsisovics 1882, Isfjord-Kolonie; *C. lindströmi* Mojsisovics 1886, Isfjord-Kolonie; *C. costatus* Öberg 1877, Isfjord-Kolonie; *C. indet.* Mojsisovics 1886, Isfjord-Kolonie; *C. nov. f. indet.* Mojsisovics 1886, Isfjord-Kolonie, Spitzbergen, Triassic, Kummel, B.

Columbites dolnapiensis sp. nov. p. 143 pl. 30 fig. 3; text-fig. 30; Dolnapi U.S.S.R., Trias., Kiparisova, L. D.

Doricranitidae fam. nov. p. 945 (407) Ceratitaceae for *Doricranites* Hyatt, genotype *Ammonites bogdanus*; and *Subdoricranites* Bayarunas genotype *S. discoides*; Lower Triassic, Indekian stage, Mangyshlak, U.S.S.R., Astakhova, T. V.

Euflemingites romunduri sp. nov. p. 51 pl. 12, nos. 2a-5b; text-fig. 8; Trias, Ellesmere Island between Hare and Otto Fiords, Arctic Archipelago, Tozer, E. T.

Flemingites labensis sp. nov. p. 136 pl. 29 figs. 2, 3, text-fig. 19; Caucasus, Labi river basin, U.S.S.R., Trias., *F. prynadasi* Kiparisova (in litt.) p. 135 pl. 29 fig. 1; pl. 30 fig. 1; text-fig. 18, Ussuri, Kiparisova, L. D.

Glyptopliceras tobisnense Kiparisova (in litt.) p. 133 pl. 27 fig. 9; text-fig. 15; Trias, U.S.S.R., Kiparisova, L. D.

Gyronites separatus Kiparisova (in litt.) p. 134 pl. 28 fig. 6; text-fig. 17; Ussuri, U.S.S.R., Trias, Kiparisova, L. D.

Hungarites tetragonus Voinova sp. nov. p. 157 pl. 37 figs. 4, 5; Kolyma river basin, U.S.S.R. Trias, Voinova in Kiparisova, L. D.

Japonites labensis Robinson sp. nov. p. 152 pl. 36 figs. 1, 2; text-fig. 47; Labi river basin, Caucasus, Trias, Robinson in Kiparisova, L. D.

Jovites borealis p. 86 pl. 26 figs. 2a-7; Cape Ursula, Table Island; *J. richardsi* p. 88 pl. 27 nos. 6a-8c; Lyall Point, Cameron Island spp. nov. Trias, Arctic Archipelago, Tozer, E. T.

Juvenites canadensis sp. 60 pl. 13 nos. 3a-d; *J. crassus* p. 60 pl. 13 nos. 4a-7c; Ellesmere Island, between Hare & Otto Fiords, Arctic Archipelago, Trias. spp. nov., Tozer, E. T.

Kashmirites subdimorphus sp. nov. p. 143 pl. 33 figs. 3-5 text-figs. 40, 41; Mangyshlak; *A. ? stoyanovi* sp. nov. (= *Xenodiscus radians* Stoyanow non Waagen) p. 149 pl. 35 fig. 1; Armenia, Trias, Kiparisova, L. D.

Laboceras gen. nov. p. 72 of Aplococeratidae genotype *L. gracile* sp. nov. p. 72, text-figs. 1, 2; Triassic, Anisian; Caucasus, Shevryev, A. A. (2).

Longobarditoides gen. nov. p. 74 of Hungaritidae genotype *L. caucasicus* sp. nov. p. 74 text-figs. 3-5; Anisian Trias; Caucasus, U.S.S.R., Shevryev, A. A. (2).

Meekoceras subcristatum Kiparisova (in litt.) p. 150 pl. 35 figs. 4, 5; text-fig. 44; Trias, U.S.S.R., Kiparisova, L. D.

Megaphyllites immaturus Kiparisova (in litt.) p. 130 pl. 27 figs. 1, 2; text-fig. 8; Trias, Ussuri, U.S.S.R., Kiparisova, L. D.; *M. prometheus* sp. nov. p. 77 text-figs. 6, 7; Anisian, Trias; Caucasus, U.S.S.R., Shevryev, A. A. (2).

Nannites sinuosus sp. nov. p. 141 pl. 27 figs. 6-8; text-fig. 27; Labi river basin, Caucasus U.S.S.R., Trias, Kiparisova, L. D.

Neoshumardites triceps hyperboreus subsp. nov. p. 55, text-figs. 4, 5; Permian, River Tumara, Verkhoyansk basin, Yakutsk region, Russia, Ruzhentsev, V. E.

Neoudendites gen. nov. p. 53 of Uddenitinae, genotype *N. andrianovi* sp. nov. p. 53 text-figs. 2, 3; Permian, R. Tumara, Verkhoyansk basin, Yakutsk region, Russia, Ruzhentsev, V. E.

Olenikites canadensis sp. nov. p. 73 pl. 18 nos. 1a-3b; text-fig. 9; Otto Fiord, Ellesmere Island; Arctic Archipelago, Trias, Tozer, E. T.

Paranannites gracilis Kiparisova (in litt.) p. 140 pl. 28 fig. 1; text-fig. 25; Trias, Ussuri, U.S.S.R., Kiparisova, L. D.

Paraplicites gen. nov. p. 181 [= *Paraplicites* nov. gen. Kut. 1928 nom. nud.] Pinacoceratidae, genotype *Paraplicites nepceai* sp. nov. p. 181 [= *P. nepceai* nov. sp. Kut. 1928 nom. nud.] Kolafalva, Bihar Mt., Roumania, Carnian Trias, Oravec, J.

Popanoceras (*Amphipopanoceras*) *dzeiginskis* Voinova sp. nov. p. 129 pl. 26 figs. 3, 4; Trias, Kolyma river basin,

U.S.S.R., Voinova in Kiparisova, L. D.; *P. tumarensis* sp. nov. p. 60 text-figs. 9, 10; Permian, Tumara River Verkhoynak basin, Yakutsk region, Russia, Ruzhentsev, V. K.

Prionolobus plicatus sp. nov. p. 49 pl. 20 nos. 4a-c, 5a-c; Blind Ford formation Trias; Bunde Fjord, Axel Heiberg Island, Arctic Archipelago, Tosser, E. T.

Propinacoceras sp. nov. p. 694, pl. 78 figs. 14, 15; text-fig. 4; Moogoree Station, Carnarvon Basin, W. Australia, Lower Permian, Glenister & Furnish.

Propinacoceras ruzhentsevi sp. nov. p. 723 pl. 86 figs. 1-3; text-fig. 15A; Mt. Wynne area, Fitzroy Basin, W. Australia, Permian, Glenister & Furnish.

Proptychites robinsoni sp. nov. p. 138 pl. 31 figs. 2-5; text-fig. 23; Trias, Labi river, Caucasus, U.S.S.R., Kiparisova, L. D.; *P. strigatus* p. 55 pl. 9 no. 3; pl. 10 nos. 1a, b, 2a, b; pl. 11 nos. 2a-4c; *P. candidus* p. 57 pl. 11 nos. 1a-c; spp. nov. Trias, Bunde Fjord, Axel Heiberg Island, Arctic Archipelago, Tosser, E. T.

Prospingites globosus Kiparisova (in litt.) p. 142 pl. 32 figs. 6, 7; text-fig. 29; Trias, Ussuri, U.S.S.R., Kiparisova, L. D.

Pseudohalorites celestis densistriatus var. nov. pp. 19, 50 pl. 7, figs. 12-14, Permian, Tanchiashan Hunan China, Chao, K.-K.

Pseudosagoceras multilobatum Noetling var. *giganteum* Popov (in litt.) p. 127 pl. 26 fig. 2; text-fig. 5; Kulu-Kol'im river, *P. simplex* Kiparisova (in litt.) p. 128 pl. 26 fig. 2 text-fig. 6; Ussuri, U.S.S.R., Trias, Kiparisova, L. D.

Ptychites nanuk sp. nov. p. 93 pl. 21 figs. 2-10; text-fig. 10; Goose Point, Ellesmere Island, Arctic Archipelago, Trias, Tosser, E. T.

Sirenites nansenii p. 77 pl. 23 nos. 1a-8b; pl. 24 nos. 12a-16b Blass Mt., Greely Fjord, Ellesmere Island; *S. costatus* p. 90 pl. 24 nos. 10, 11a, b; Buchanan Lake, Axel Heiberg Island, Arctic Archipelago spp. nov. Trias, Tosser, E. T.

Subcolumbites multiformis Kiparisova (in litt.) p. 144 pl. 32 figs. 8-11; text-figs. 31-34; Trias, Ussuri, U.S.S.R., Kiparisova, L. D.

Tirolites rossicus sp. nov. p. 168 pl. 43 figs. 2, 3; pl. 44 fig. 2; text-fig. 66; Mangyashlak U.S.S.R., Trias, Kiparisova, L. D.

Yinoceras gen. nov. pp. 19, 50, of Thalassoceratidae genotype *Y. lenticulare* sp. nov. pp. 20, 51 pl. 6 figs. 7-8; text-fig. 4; Tanchiashan Hunan China, Permian, Chao, K.-K.

PHYLOCERATINA

Bouhamidoceras zizense gen. nov. and sp. nov. Juraphyllitidae, Lias, Morocco, p. 199 [nom. nud.], Dubar, G.

Coahuilites shelsoni and *C. cavini* Maestrichtian, Cretaceous, Gulf Coast, United States, Young, K. (1).

Holcophyloceras aff. *mediterraneum* pl. 1 figs. 1-5; Jurassic, Taiwan, China, Lin, C. C.

Leiophyllites visendus sp. nov. p. 82 text-figs. 10, 11; Anisian, Trias; Caucasus, U.S.S.R., Shevryev, A. A. (2).

Nuclooceras nuculum photo., Carboniferous, Belgium, Bouckaert, J.

Phylloceras (*Holcophyloceras*) *kumuchense* Krimholz (in litt.) p. 163 pl. 25 fig. 7; pl. 26 fig. 1; text-fig. 11; Jurassic, Caucasus, U.S.S.R., Krimholz, G.; *P. mediterraneum* aboral structures, Davitashvili & Khimshashvili; *P. (Phylloceras) tiglukpukense* sp. nov. p. 55 pl. 12 figs. 1-3; Okpikruak formation, Berriasian Cretaceous, Tiglukpuk Creek, northern Alaska, Imlay, R. W. (2).

Rhacophyllites amurensis Kiparisova (in litt.) p. 160 pl. 25 figs. 1a, b; text-fig. 9; Jurassic, Vostok, U.S.S.R., Krimholz, G.

Sphenodiscus lenticularis, *S. intermedius* and *S. pleuroseptus* Maestrichtian Cretaceous, Gulf Coast, United States, Young, K. (1).

Zeloceras thorsleinassoni sp. nov. p. 5 pl. 6 fig. 1; pl. 7 fig. 1; pl. 8 fig. 1; pl. 9 fig. 2; Prince Patrick Island, Wilkie Point formation, Jurassic, Freibold, H.

LYTOCERATINA

Ammonitoceras boughtonense p. 60 pl. xvi figs. 2a-c; text-fig. 18g; Skinner's Quarry; *A. sowerbyi* p. 61, pl. xvi figs. 1a, b; pl. xvii fig. 2; pl. xviii figs. 2a-c; pl. xix figs. 4a-d; text-fig. 21; spp. nov. Hythe Beds, Maidstone, Kent, Casey, R. (1).

Australiceras gigas inscriptum var. nov. p. 52 text-fig. 17; *A. g. arcuatum* var. nov. p. 52 pl. xii figs. 1a-c; *A. g. angustimanum* var. nov. p. 52 pl. xiii; *A. pingue* sp. nov. p. 55 pl. xiv fig. 1; pl. xv fig. 1; text-fig. 18b; Lower Greensand [Ferruginous Sands (Scaphites Beds)], Atherfield, Isle of Wight, Casey, R. (1).

Bostrychoceras sp. aff. *B. polyplacum* Campanian Cretaceous, Gulf coast, United States, Young, K. (1).

Cirroceras sornayi sp. nov. p. 20 pls. 1-3; Cretaceous, Barra do Dande, Angola, Silva, G. H. da (2).

Diplomoceras notabile muscle attachment impressions in a Cretaceous form, Jones, D. L.

Epancyloceras fractum sp. nov. p. 67 pl. xix figs. 2-3; text-figs. 18e, 25, 27b; Ferruginous Sands (Scaphites Beds inferred), Atherfield, Isle of Wight, Casey, R. (1).

Gaudryceras cenomanense sp. nov. p. 9, Cenomanian, Cretaceous; Saint-Lions, (Basse-Alpes), France, Thomel, G. (4).

Hamites pseudattenuatus p. 96 pl. xxii figs. 3a-c; West Dereham, Norfolk, Lower Albian; *H. hybridus* p. 97 pl. xxii figs. 1, 2a-c; text-figs. 33d-f; Folkestone Beds, Copt Point, Kent; spp. nov. Cretaceous, Casey, R. (1).

Lithancylus fustis sp. nov. p. 75 pl. xxi figs. 4a-d; Hythe Beds, Hythe, Kent (Cretaceous), Casey, R. (1).

Mesogaudyrceras leptonema Cenomanian, Cretaceous; Saint-Lions, Lambrousse, Hyges and Saint-André (Basses Alpes), France, Thomel, G. (4).

Neogaudyrceras colligoni sp. nov. p. 9, Cenomanian, Cretaceous; Saint-Lions (Basse-Alpes), France, Thomel, G. (4).

Otoscapites seabensis sp. nov. pp. 179, 184 pl. 38 figs. 13-27; text-figs. 2d, e, n; Baby Creek, Seabee formation (Cretaceous), Alaska, Cobban & Grye.

Paragaudyrceras buddha Cenomanian, Saint Étienne-lez-Orques and Chabrières and Albian at Bourras near la Palud-du-Moustiers, France, Cretaceous *Paragaudyrceras* sp. Saint-Lions, Thomel, G. (4).

Protanisoceras (*P.*) *ventrosus* p. 103 pl. xxiii, figs. 3a-c, 4a-d; *P. (P.) coptense* p. 105 pl. xxiii figs. 7a-c; text-fig. 36b; Folkestone Beds, Copt Point, Kent. *P. (P.) hengesti* p. 110 pl. xxv figs. 4a-c, 5a-c, 6a-c; Folkestone Beds, Squerry's main pit, Westerham, Kent; *P. (P.) subquadratum* p. 111 pl. xxiv figs. 5a-d; Folkestone Beds, Copt Point, Folkestone, Kent spp. nov. Cretaceous, *P. (Torquistylus) anglicum* subgen. nov. q.v., Casey, R. (1).

Ptychoceras sp. Albian in the Motuan stage, Upper Awatere valley, Vella, P. (2).

Rosallites gen. nov. p. 115, Anisoceratidae genotype *Protanisoceras* (?) *superbum*, Lower Albian, Madagascar, p. 115, *R. ovensi* sp. nov. p. 117 pl. xxv figs. 1a-c; text-figs. 38d, e; Folkestone Beds, Copt Point, Kent, Cretaceous, Casey, R. (1).

Scaphites subdelicatulus sp. nov. p. 179 pl. 37 figs. 1-15; text-fig. 2c, West bank of Nanushuk River, Seabee formation, (Cretaceous), Alaska, Cobban & Grye.

Tetragonitidae rare in France Cenomanian, Saint-Lions, (Basse-Alpes), France, Thomel, G. (4).

Tonohamites koeneni p. 89 pl. xx figs. 5a, b; Lower Aptian, Hythe Beds, Otterpool Quarry, Kent; *T. limbatus* p. 89 pl. xx figs. 3a-c, 4; pl. xxi figs. 3a, b; Whale Chine, Atherfield; *T. (?) hunstantoniensis* p. 90 pl. xxi figs. 1a-d; Carstone base, Hunstanton, Norfolk, spp. nov. Cretaceous, Casey, R. (1).

Torquistylus subgen. nov. p. 113 of *Protanisoceras*, subgenotype *Proheloceras anglicum* p. 113 pl. xxii figs. 7a, b, 8a, b, 9, 10a, b, 11a-c, 12a-c; text-fig. 37; Folkestone Beds, Copt Point, Kent, Cretaceous, Casey, R. (1).

AMMONITINA

Ammonitina origin and evolution, Schindewolf, O. H. (1).

Aconeceras neonisoides sp. nov. p. 129 pl. 26 figs. 1, 9, 10; text-fig. 41d-e; Folkestone beds, Cretaceous; Webster's pit, S. of Billington Crossing, Leighton Buzzard, Bedfordshire, Casey, R. (2).

Anahoplitoidea gen. nov. p. 599, of Hoplitinae genotype "*Saynella splendens* (J. Sowerby) var. *gigas* Sinzow (1915) (= *Leymeriella revitti* Jacob, Sinzow 1909) Lower Albian, Mangyshlak, Russia," Casey, R. (4).

Atzioceras (*Atzioceras*) *involutum* p. 61 pl. 6 fig. 5; Stetten, A. (A.) *discoideoides* p. 64 pl. 11 fig. 1; Mühlheim, A. (*Paratzioceras*) *pseudolothari* p. 68 pl. 16 fig. 6; Zimmern near Pappenheim, A. (P.) *pseudohomalinum* p. 71 pl. 15 fig. 6; Tiefenellern, A. (P.) *paraboliferum* p. 72 pl. 17 fig. 2; Hartmannshof, A. (P.) *rudocerasatum* p. 72 pl. 14 fig. 5; pl. 17 fig. 4; Degenfeld, A. (P.) *holderi* p. 73 pl. 15 figs. 3-5; Tieringen, A. (P.) *oppeli* p. 74 pl. 16 figs. 4, 5; Salmendingen, A. (P.) *nendingenensis* p. 76 pl. 17 fig. 1; Nendingen, A. (P.) *robustum* p. 76 pl. 14 fig. 6; Geislingen, A. (P.) *schneidi* p. 79 pl. 14 fig. 1; Zeegendorf, spp. nov. Jurassic, Germany, Geyer, O. F. (1).

Aulacostephanus from the Jurassic, stratigraphical and zoogeographical study, Ziegler, B. (2).

Austinceras beantalyense p. 44 pl. 13 figs. 1, 1a; Sud Beantaly (Belo) Coniacian; A. *antiochense* p. 45 pl. 14; Antiocha (west Antiocha) Santonian; A. *menabense* p. 46 pl. 15 figs. 1, 1a, 1b; pl. 16; Iampolypoly-Antairasira, Campanian spp. nov. Cretaceous, Madagascar, Collignon, M. (3).

Berriassella akiyamae sp. nov. p. 543 pl. 13 figs. 4-6; Tithonian Jurassic, Kesennuma, Japan, Sato, T. (4).

Beudanticeras dupinianum evolutum var. nov. p. 155 pl. 27 figs. 8a-b; Wrecclesham, Surrey; *B. bulbosum* sp. nov. p. 156 pl. 28 figs. 3-4; Copt Point, Folkestone, Kent; Folkestone Beds, Cretaceous, Casey, R. (2); *B. (Grantsiceras) multiconstrictum* subgen. et sp. nov. p. 56 pl. 14 fig. 1; pl. 15 figs. 1-12, Matanuska formation Cretaceous, northern Alaska, Imlay, R. W. (2).

Beuwhites sp. cf. *B. beuwhensis* Cretaceous Santonian, Gulf coast, United States, Young, K. (1).

Bhimaites aotryensis p. 37 pl. 6 figs. 2, 2a, 2b; Ouest Aotry (Betioky); Cenomanian; *B. analabensis* p. 38 pl. 7 figs. 1, 1a; Analabe (Belo) Coniacian spp. nov. Cretaceous, Madagascar, Collignon, M. (3).

Binneyites carlileensis p. 756 pl. 89 figs. 15-22; text-figs. 5h, j-m; Black Hills, S. Dakota, Wyoming; *B. nodosus* p. 756 pl. 89 figs. 23-25; text-figs. 5q, r; *B. rugosus* p. 756 pl. 89 figs. 26-31; text-figs. 5n-p; spp. nov. Shelby, Montana, Cretaceous, Cobban, W. A.

Borissiacoceras compressum sp. nov. p. 747 pl. 87 figs. 19-33; pl. 89 figs. 1-9; text-figs. 4a-k; Wyoming, Cretaceous, Cobban, W. A.; *B. inconstans* p. 179, 187; pl. 38 figs. 30-37; text-figs. 2i, 2j; Nanushuk River, B. *ashurkoffae* pp. 179, 188 pl. 38 figs. 38-43; text-figs. 2j, 2k, 2m; Maybe Creek, Baby Creek, Anuk Creek, Tuluga River, Chandler River, Alaska, Seabee formation, Cretaceous, spp. nov., Cobban & Grye.

Cadoceras primaevum p. 107 pl. 6 figs. 1a-c; Elatma Ryazansk province; *C. mundum* p. 108 pl. 6 figs. 2-7B; R. Oke; *C. postelatae* p. 113 pl. 12 figs. 1, 1a; Elatma; spp. nov. Jurassic, Central region, Russian platform, Sazonov, N. T. (1).

Cadomites (Polystephanus) helveticus sp. nov. p. 139, text-fig. G1402, Lausen, Switzerland, Bajocian Jurassic, Mauberge, P. L. (2).

Campylites (Neoprioceras) henrici crassus subsp. nov. p. 309 pl. 18 fig. 6; Grand Caudon (Freiburger Alpen), Jurassic; *C. (C.) ocula*; *C. (C.) d. delmontanus*; *C. (C.) d. helveticus*; *C. (C.) evolutus*; *C. (C.) villersi*; *C. (C.) taeniolatus*; *C. (C.) inermis*; *C. (C.) ogeri*; *C. (C.) thirrii*; *C. (N.) girardoti*; *C. (N.) h. henrici*; *C. (N.) lautlingensis*; *C. (N.) argovienensis*; *C. (N.) jurensis* and *C. (N.) mexicanum* also described, Christ, E. (2).

Cardioceras acutum p. 130 pl. 16 figs. 5, 5a; R. Oke; *C. borissajaki* p. 131 pl. 16 figs. 1, 1a; *C. amorodinae* p. 132 pl. 11 figs. 2, 2a; *C. russienae* p. 134 pl. 12 figs. 2, 2a; pl. 16 figs. 3, 4, 6, 6a; Chnzh river basin; *C. antequadratoidea* p. 141 pl. 12 figs. 6, 6a; pl. 17 figs. 5, 5a; *C. moscovitense* p. 143 pl. 18 figs. 7, 7a; R. Neplozh, Ryazansk province; spp. nov. Jurassic, central region, Russian platform, Sazonov, N. T. (1).

Cardioceratidae problems of phylogeny, Jurassic, Kamysheva-Elpat'evskaya, Nikolaeva & Troitskaya.

Chelonicerus (Chelonicerus) crassus impar var. nov. p. 209 pl. 34 figs. 3-6; Hythe beds, Great Chart, Kent; *C. (C.) kiliani obovum* var. nov. p. 215 pl. 33 figs. 6a-b; text-fig. 67d; *C. (C.) disparile* sp. nov. p. 215 pl. 34, figs. 7a-b; 8a-c; text-figs. 67g, 68; Ferruginous sands, Whale Chine, Atherfield, Isle of Wight, Cretaceous, Casey, R. (2); *C. kubanense* sp. nov. p. 65 pl. 3 fig. 12; Aptian Cretaceous, N. Caucasus, Russia, Eristavi, M. S. (3); *C. (C.) parinodum* p. 594 pl. 84 fig. 1; text-fig. 14a; Atherfield; *C. (Epicheloniceras) martinoides* p. 595 pl. 84 figs. 2a, b; text-figs. 14d, e; Maidstone, Kent; *C. (E.) debile* p. 595 pl. 84 figs. 3a, b; text-fig. 14b; Chale Bay, Isle of Wight; *C. (E.) gracile* p. 596 pl. 81 figs. 1a, b; text-fig. 14c; Walpen High Cliff, Isle of Wight, spp. nov. Lower Greensand, Casey, R. (4).

Cleoniceras (C.) floridum sp. nov. p. 599 pl. 84 figs. 6, 7; Folkestone Beds, Copt Point, Kent, Casey, R. (4); *C. tailleurii* p. 63 pl. 20 figs. 1-5; Etivluk river, Torok formation *C. (Neosaynella) whittingtoni* p. 64 pl. 20 figs. 6-9; E. side Birthday Creek, spp. nov. *C. (Grycia) siblei* subgen. et sp. nov. p. 64 pl. 20 figs. 13-20; Birthday Creek, northern Alaska, Torok formation, Cretaceous, Imlay, R. W. (2).

Clydonicerus discus from the "Fuscus-Bank" at Balingen in the Jurassic, Rieber, H.

Colopoceras gissarensis sp. nov. p. 175 pl. 1 figs. 1, 2, 2a; Uzbekistan Russia, Cretaceous, Ilyin, V. D.

- Colombiceras toleri caucasica* var. nov. p. 66 pl. 4 fig. 6; Aptian Cretaceous, Kamemost, N. Caucasus, Russia, Eristavi, M. S. (2).
- Colvillia* gen. nov. p. 57 of Desmoceratidae genotype *Colvillia kenti* sp. nov. p. 58 pl. 13 figs. 1-6, 13; *C. crassicoelata* sp. nov. p. 58 pl. 13 figs. 7-12, 14, 15; Okpikruak river, Albian Cretaceous, northern Alaska, Imlay, R. W. (2).
- Cosmoceratidae* (Kosmoceratidae) problems of phylogeny, Jurassic, Kamysheva-Elpat'evskaya, Nikolaeva & Troitskaya.
- Craniocephalites warreni* sp. nov. p. 14 pl. 2 figs. 1a-2b, 4; Bug Creek Canyon, Aklavik Range, Canada, Jurassic, Frobeld, H.
- Craspedites subditus* suture line, Jurassic ontogeny, Shevryev, A. A. (1).
- Cynahoplites* sp. nov. cf. *kerensianus* p. 168 pl. 29 figs. 1a-d; text-figs. 52a-f; Lower Albian, Folkestone beds, Copt Point, Folkestone, Kent, Casey, R. (2).
- Cymbites fastigatus* p. 211 text-figs. 14, 15; pl. 30 figs. 8-10; Otterdingen; *C. sulcatus* p. 213 text-fig. 13; pl. 30 fig. 17; Balingen; spp. nov. *C. globosus lateroplanus* p. 207 pl. 29 figs. 9-16 text-figs. 7-10; Göppingen; *C. centrifolus nanus* p. 221 text-fig. 26, Dürnaul pl. 31 fig. 18 subsp. nov. Lias, Germany, Schindewolf, O. H. (2).
- Damesites rabei* p. 71 pl. 27 figs. 3, 3a, 3b; text-figs. 9, 10; Santonian, Antsirasia-Behamotra; *D. tsianalokyensis* p. 73 pl. 27 figs. 4, 4a, 4b, 5, 5a, 5b, 6, 6a, 6b; text-fig. 11; Santonian Tsianaloky (Menabe) spp. nov. Cretaceous Madagascar, Collignon, M. (3).
- Delawarella delawarensis* and *D.* sp. aff. *D. roedereri* Campanian Cretaceous, Gulf coast, United States, Young, K. (1).
- Deshayesites forbesi* p. 593 pl. 81 figs. 2a, b; Crackers, Atherfield, *D. fittoni* p. 593 pl. 84 figs. 4a, b; Atherfield Clay, Isle of Wight, *D. callidiscus* p. 594 pl. 80 fig. 10, Crackers, Isle of Wight spp. nov. Lower Greensand, Casey, R. (4).
- Desmoceratidae* sp. Cenomanian, Godula beds, Radhoš Mt., previously *D. (Beudanticeras)* aff. *dupinianum* found in the river bed at Brennie, no other macrofossils, Stránil, Z.; *D. (Pseudouhligella) mahabokensis* sp. nov. p. 60 pl. 24 figs. 2, 2a, 3; Cenomanian Cretaceous, Mahaboka (Sakaraha) Madagascar, Collignon, M. (3).
- Desmophyllites diphyllodes inermis* var. nov. p. 63 pl. 24 figs. 4, 4a, 4b, 5, 5a, 5b; pl. 25, figs. 3, 3a, 3b; Coniacian, Antsakoazato; *D. diphyllodes lata* var. nov. p. 64 pl. 25 figs. 7, 7a, 7b, 8, 8a, 8b; text-fig. 4; Santonian, Beantaly-Soromaray, Cretaceous, Madagascar, Collignon, M. (3).
- Determanites* gen. nov. p. 471, of Stephanoceratidae, type-sp. *D. vigorosus* sp. nov. p. 472 pl. 64 figs. 1-3; Bajocian Jurassic, Iniskin Peninsula Alaska, Imlay, R. W. (1).
- Dichotomites late-umbilicatum* sp. nov. p. 160, Hauterivian, Rayet near Falcon (Alpes-Maritimes), France, Thomel, G. (2).
- Doridiscus* gen. nov. p. 137 of Aconeceratidae genotype *D. rotulus* sp. nov. p. 139 pl. 26 figs. 8a-b; text-fig. 44c-e; Ferruginous sands, Cretaceous; Walpen High Cliff, Chale Bay, Isle of Wight, Casey, R. (2).
- Dufrenoyia transitoria* sp. nov. p. 594 pl. 83 figs. 3a, b; Carstone, Hunstanton, Norfolk, Casey, R. (4).
- Elatmites* gen. nov. p. 69 of Pseudoperisphinctidae genotype *E. submutatus* text-fig. 1, p. 69, Jurassic, Shevryev, A. A. (1).
- Emileia helvetica* p. 77 text-fig. G113; Buckten; *E. greppini* p. 78 text-fig. G1259; *E. pseudo-grandis* p. 80 text-fig. G1123; *E. schmassmanni* p. 82 text-fig. G1125, Liestal; *E. fullinendorfsen* p. 83 text-fig. G4000, Fullinsdorf; *E. (Emileites) bubendorfsen* p. 85 text-fig. G1406, Bubendorf spp. nov. Bajocian, Jurassic, Switzerland, Maubeuge, P. L. (2).
- Erycites* sp. juv. indet. Hammatoceratidae Jurassic, near Mae Sot, Thailand, Sato, T. (1).
- Eusapidoceras senokosi* sp. nov. pp. 228 (237), pl. 3, figs. 1, 1a; pl. 4, text-fig. 17; Senokos, Stara Planina Mts., Serbia, Yugoslavia, Oxfordian Jurassic, Andelković, M. Z. (2).
- Eurasenia* subgen. nov. p. 87 of *Rasenia* subgenotype *Ammonites rolandi* Jurassic, Germany, Geyer, O. F. (1).
- Garniericeras catenulatum* suture line, ontogeny Jurassic, Shevryev, A. A. (1).
- Gleviceras subgubalianum* first record for Lotharingian of "Jura Franc-Comtois," Blaison & Théobald.
- Goliathiceras daghestanicum* sp. nov. p. 178 pl. 9 figs. 1, 2; Callovian Jurassic; Daghestan, Georgia, Russia, Khimshiashvili, N. G.
- Grammoceras* from the Lias Alma river, Crimea, Krimholz & Shalimov; *G. fallaciosum* conchometry, particularly whorl width and costulation, Perrin & Théobald.
- Grandidiericeras grandidierorum* sp. nov. p. 47 pl. 17 figs. 1, 1a; Campanian Cretaceous; Ankilizato (Belo), Madagascar, Collignon, M. (3).
- Granziceras* subgen. nov. p. 56 of *Beudanticeras* q.v., Imlay, R. W. (2).
- Gravesia* cf. *portlandica* from Morteau region, Doubs, France, Portland, Jurassic fig'd., Ziegler, M. A.
- Grossouria* (*Grossourvia*) nov. sp. p. 93 pl. 6 fig. 1; Rocca Busambra Sicily, Oxfordian Jurassic, Christ, H. A. (1).
- Grycia* subgen. nov. of *Cleoniceras* p. 64, q.v., Imlay, R. W. (2).
- Hammatoceras* (*Hammatoceras*) *cubaniense* sp. nov. p. 106 pl. 6 figs. 2, 3; northern Caucasus, Kuban basin, Jurassic, Krymgoitz, G. Y.
- Haploceras subgrasinum* sp. nov. p. 268 pl. 13 figs. 4a, b, 5a, b; text-fig. 74; Crimea, Kacha river, Cretaceous, Drushchits in Drushchits & Kudryavtsev.
- Harpoceras* (*Pseudellia*) *aalense*, *H. striatulo-costatum*, *H. (Ammonites) radians* and *H. striatulus*, Lias Gacko, Yugoslavia, Vlahinjić-Dekić, K.
- Hauericeras antiquum* p. 75 text-fig. 12; Ambiky, S of Andimakka, (Belo sur Tsiribihina) Coniacian; *H. (Gardeniceras) madagascariense* p. 81 pl. 31 figs. 1, 1a, 1b; pl. 32 figs. 1, 1a; text-figs. 15, 16, 17; Campanian Berere; *H. pseudoangustum* p. 83, text-fig. 18; Campanian, Iampolypoly—Antsirasia—Behamotra (Belo sur Tsiribihina); spp. nov. Cretaceous Madagascar, Collignon, M. (3).
- Hecticoceras* systematic study of species from the Callovian (Jurassic) of the Besançon region of France, Rangheard, Y. (1); *Hecticoceras* spp. from the Callovian of the French Jura, Rangheard, Y. (2); *H. (Putealiceras?)* nov. sp. p. 75 pl. 3 fig. 10; Rocca Busambra, Sicily, Oxfordian Jurassic, Christ, H. A. (1); *H. isonensis* p. 157 pl. 3 fig. 2, Tsion; *H. waageni* p. 159 pl. 3 fig. 4,

Cherek; *spp. nov.* Callovian, Jurassic; Georgia Russia, Khimshiasvili, N. G.

Hemitissotia randoi *spp. nov.* p. 131 pl. 24 figs. 1, 2; text-fig. 2; Randgrabens near Gosau, Switzerland, Cretaceous, Gerth, H.

Hildoceras (Fucinoceras) meneghinianum, Lias, Gacko, Yugoslavia, Vlahinjić-Dekić, K.

Hoplites (Isopholites) eodentatus *spp. nov.* p. 599 pl. 83, figs. 4a, b; Leighton Buzzard, Bedfordshire, Casey, R. (4).

Hoplitoplacentoceras marroti Campanian Cretaceous, Gulf coast, United States, Young, K. (1).

Hypacanthopholites milletioides *spp. nov.* p. 598 pl. 83 figs. 1, 2; Folkestone Beds, Sandling Junction, Hythe, Kent, Casey, R. (4).

Ilovaiskiceras *gen. nov.* p. 144 of Ilovaiskioceratidae genotype *I. stephanoides* p. 145 pl. 5 figs. 2, a, 6, a; Russia, Jurassic, Sazonov, N. T. (2).

Ilovaiskioceratidae *fam. nov.* ? p. 142 of Perisphinctaceae, for *Desmosphinctes*, *Microphinctes*, *Prorastenia* and *Ilovaiskiceras* *gen. nov.* q.v. Jurassic, Russia, Sazonov, N. T. (2).

Jimboiceras planulatifforme madagascariensis *var. nov.* p. 43 pl. 7 figs. 2, 2a, 2b; Masiaposa (Belo) Madagascar, Turonian Cretaceous, Collignon, M. (3).

Johnsonites *gen. nov.* p. 743 of Binneyitidae type species *J. sulcatus* *spp. nov.* p. 743 pl. 87 figs. 1-18; text-figs. 3a-g; Wyoming, S. Colorado, Cretaceous, Cobban, W. A.

Kachpurites subfulgens suture line, Jurassic ontogeny, Shevryev, A. A. (1).

Karamaites *gen. nov.* p. 152 of Placentoceratidae genotype *K. kolbajensis* Cenomanian, Vrakovsk deposits, eastern Mangyshlak, Russia, Sokolov, M. I.

Katrolliceras (Katrolliceras) aceroides p. 41 pl. 3 fig. 3; pl. 5 figs. 5-7; Reichenbach, K. (*Crusolliceras*) *tenuicostatum* p. 44 pl. 4 figs. 3, 5; pl. 5 fig. 3; Schwäbische Alb, K. (*Garniersphinctes*) *semigarnieri* p. 46 pl. 3 fig. 4; Böhmekirch, K. (*G.*) *virgaticostatum* p. 46 pl. 6 fig. 1; Fünfstetten, K. (*Torquatisphinctes*) *melliconense* p. 48 pl. 3 fig. 2; Mellikon *spp. nov.* Jurassic, Germany, Geyer, O. F. (1).

Keplerites enodatum suture line, Jurassic ontogeny, Shevryev, A. A. (1); *K. lorinckii* *spp. nov.* p. 19 pl. 1 figs. 1-8; Colfax formation Placer, Co., Sierra Nevada, California, Jurassic, Imlay, R. W. (3).

Kilianiceras janini *spp. nov.* p. 271 pl. 15 fig. 3; Cretaceous, Crimea, Drushchits in Drushchits & Kudryavtsev.

Kitchinites busnardoii p. 55 pl. 6 figs. 3, 3a, 3b; Campanian, Iampolypoly-Antisirasia; *K. quadratus* p. 56 pl. 6 figs. 4, 4a; Bevaio; *K. flabelliformis* p. 56 pl. 6 figs. 5, 5a; Berere; *K. enayi* p. 57 pl. 23 figs. 2, 2a, 2b; Iampolypoly-Antisirasia; *K. fascigerus* p. 58 pl. 23 figs. 3, 3a; Campanian, Berere and Santonian Beantaly-Soromarina; *spp. nov.* Cretaceous, Madagascar, Collignon, M. (3).

Kosmoceras caucasicus *spp. nov.* p. 169 pl. 4 fig. 2; Caucasus, Callovian, Jurassic, Russia, Khimshiasvili, N. G.; *K. (Gulielmites)* *g.* suture line, Jurassic ontogeny, Shevryev, A. A. (1).

Leptosphinctes helveticus *spp. nov.* p. 154 text-fig. G137, Liestal, Switzerland, Bajocian, Jurassic, Maubeuge, P. L. (2).

Levesiceras *spp. probably* *L. peramplum*, Campanian, Israel, Avnimelech, M. (2).

Lirozyites subgen. *nov.* p. 469 of *Oppelia* Oppeliidae, type *sp. O. (L.) kellumi* *spp. nov.* p. 470 pl. 63 figs. 5, 7-9; Bajocian, Jurassic; Iniskin Peninsula, Alaska, Imlay, R. W. (1).

Lithoceras (Progeronia) pseudopolyplocoides p. 33 pl. 8 figs. 2, 3; pl. 10 fig. 3; Aalen, L. (P.) *freybergi* p. 34 pl. 8 fig. 1; Staffelfberg, L. (P.) *rotiforme* p. 36 pl. 6 fig. 2; Bopfingen, Jurassic, Germany, *spp. nov.*, Geyer, O. F. (1).

Ludwigia subtilicostae Krimholz (in litt.) p. 175 pl. 30 fig. 5; Jurassic, Caucasus, U.S.S.R., Krimholz, G.

Lyticoceras corroyi *spp. nov.* p. 219, Hauterivian Cretaceous, Nice, France, Thomel, G. (3).

Megasphaeroceras *gen. nov.* p. 470, of Otoitidae, type *sp. M. rotundum* *spp. nov.* p. 471 pl. 63 figs. 1-4, 6; Iniskin Peninsula, Alaska, Bajocian, Jurassic, Imlay, R. W. (1).

Megatyloceras vastum *spp. nov.* p. 191 pl. 33 figs. 2a-b; text-fig. 58a-b; Atherfield Clay Series, Lower Lobster bed, Atherfield, Isle of Wight, Casey, R. (2).

Mesopuzosia ambikyensis p. 51 pl. 13 figs. 2, 2a, 2b; Masiaposa (Belo), Turonian; *M. bererensis* p. 52 pl. 21 figs. 1, 1a, 1b; pl. 22; Campanian, Iampolypoly-Antisirasia; *spp. nov.* Cretaceous, Madagascar, Collignon, M. (3).

Muniericeras lapparenti *var.* Har Qatura, S. Negev, Israel, Coniacian, Farnes, A.

Neopuzosia matsumotoi *spp. nov.* p. 54 pl. 23 figs. 1, 1a; Coniacian Cretaceous, Beantaly, Madagascar, Collignon, M. (3).

Nolaniceras *gen. nov.* p. 598, of Acanthohoplitinae genotype *Hoplites nolani* Seunes 1887, Clansayes horizon, France, Casey, R. (4).

Normannites caucasicus Krimholz (in litt.) p. 186 pl. 36 figs. 1a, b; Jurassic, Caucasus, U.S.S.R., Krimholz, G.; *N. liestalense* p. 89 text-fig. G1412, Liestal; *N. arlesheimense* p. 90 text-fig. G1440, Arlesheim; *N. (Epalzites) robustus* p. 95 text-fig. G1112, Liestal; *N. (E.) pseudo-portitor* p. 96 text-fig. G1408, Bubendorf; *N. (E.) itinsaitiformis* p. 97 text-fig. G1413, Liestal; *N. (Mascheites) basiliense* p. 98 text-fig. G1407, Bubendorf; *N. (Itinsaites) helveticus* p. 99 text-fig. G1432, Arlesheim; *N. (I.) pseudo-helveticus* p. 101 text-fig. G1425, Liestal; *N. (I.) germanitesiformis* p. 103, text-fig. G4043, Holstein *spp. nov.* Bajocian, Jurassic, Switzerland, Maubeuge, P. L. (2); *N. orbigny* fig. structure and reproduction, Davitashvili & Khimshiasvili.

Oecoptychius renzi *spp. nov.* p. 91 pl. 5 fig. 8; Rocca Busambra, Sicily, Oxfordian Jurassic, Christ, H. A. (1).

Oppelia (Lirozyites) kellumi subgen. et *spp. nov.* q.v., Imlay, R. W. (1).

Otoites golubevi Krimholz (in litt.) p. 187 pl. 35 figs. 3a, b; Jurassic, Caucasus, U.S.S.R., Krimholz, G.

Pachydesmoceras rarecostatum p. 40 pl. 9 fig. 1, 1a; Isrovky Valley, west of Col du Vohimaranitra (Betioky) Cenomanian; *P. horeqi* p. 42 pl. 9 fig. 1; Masiaposa (Belo), Turonian; *spp. nov.* Cretaceous, Madagascar, Collignon, M. (3).

Parabigolites *gen. nov.* of Leptosphinctinae p. 472 type *sp. P. crassicostratus* *spp. nov.* p. 473 pl. 64 figs. 4-10; Talkeetna Mts., Alaska; Bajocian, Jurassic, Imlay, R. W. (1).

Paragastrolites *gen. nov.* p. 62 of Gastrolitidae genotype *Paragastrolites epikeri* McLearn p. 62 pl. 19 figs. 1, 4-10, 12; Kurupa river, *P. flexicostatus* *spp. nov.* p. 63 pl. 18 figs. 10-20; Oolamagavik river, Tuktu formation, Albian Cretaceous, Northern Alaska, Imlay, R. W. (2).

Parahoplites cunningtoni sp. nov. p. 596 pl. 82 figs. 1a, b; Iron Sands of Seend, Wiltshire, Casey, R. (4).

Parakilianella "gen. nov." of Neocomitinae p. 537 [nom. nud.] genotype *P. umazawensis* "sp. nov." [nom. nud.] p. 537, Jurassic, Japan, Sato, T. (3); *Parakilianella* gen. nov. p. 546 of Neocomitinae genotype *P. umazawensis* sp. nov. p. 547 pl. 12 fig. 1; pl. 13 fig. 8; Jurassic, Umazawa Valley, Japan, Sato, T. (4).

Parapuzosia mozambica sp. nov. p. 48 pls. 18, 19; Campanian Cretaceous; Iampolypoly-Antairasira, Madagascar, Collignon, M. (3).

Parawedekindia arduennensis Oxfordian Jurassic, Isle of Mindoro, Philippine Islands, Sato, T. (2).

Parkinsonia helvetica sp. nov. p. 152 text-fig. G1831, Liestal, Switzerland, Bajocian, Jurassic, Mauberge, P. L. (2).

Pelloceras caucasicus sp. nov. p. 180 pl. 8 fig. 1; Callovian Jurassic; Daghestan, Georgia, Russia, Khimshashvili, N. G.; *P. (Pelloceratoidea) serbicus* sp. nov. pp. 225 (235) pl. 2 fig. 1 and text-fig. 2; Senokos, Stara Planina Mts. Serbia, Yugoslavia, Oxfordian, Jurassic, Andelković, M. Z. (2).

Perisphinctes (Grossouvreia) aurigera fig. structure and reproduction, Davitashvili & Khimshashvili; *P. (Alligaticeras)* n. sp. aff. *birmanodorsensis* p. 98 pl. 6 fig. 6; Rocca Busambra, Sicily, Oxfordian Jurassic, Christ, H. A. (1).

Perisphinctidae, variation and evolution of ribbing, Geyer, O. F. (2).

Peroniceras westphalicum Cretaceous succession, Gulf coast, United States, Young, K. (1).

Placentoceras sp. bitten by a mosasaur, Cretaceous, S. Dakota, Kauffman & Keeling; *P. intercalare* fig. Campanian phosphate limestone, Negev, Palestine, Avnimelech, M. (3); *P. whitfieldi* with a feather structure on the inner nacreous shell layer, Haas, O. (1).

Platynemiceras Bataller 1954 (subgen. of *Knemericeras*) systematic description, text-figs; spelt *Platyknemiceras* in 1959; here interpreted as a genus of Engonoceratidae (Knemericeratinae) close to *Parengonoceras* Spath; list of ammonites now referred to *Platynemiceras* given, Cretaceous (Albian), Casey, R. (6).

Platylenticeras (Platylenticeras) robustum gracile p. 86 pl. 1 fig. 2; text-figs. 13a, b; 14a, b; Sachsenhagen; *P. (P.) r. tardenosum* p. 88 pl. 1 figs. 3, 5; text-figs. 15a, b; Sachsenhagen; *P. (P.) r. paucicostatum* p. 90 pl. 1 fig. 4; text-figs. 16a, b; Isterberg near Benthheim; *P. (P.) parvum isterbergense* p. 102 pl. 2 figs. 2, 4, 5; text-figs. 6, 24, 25, 26; Isterberg; subsp. nov. *P. (P.) oxyconum* sp. nov. p. 105 pl. 3 fig. 1; pl. 2 fig. 6; text-figs. 27, 28; Sachsenhagen; *P. (P.) o. oxyconum* subsp. nov. p. 106 pl. 3 fig. 1; text-figs. 27a, b; Sachsenhagen; *P. (P.) heteropleurum impressum* subsp. nov. p. 115 pl. 3 fig. 5; text-figs. 32a, b; Süntel; *P. (P.) involutum* sp. nov. p. 118 pl. 4 figs. 4, 5; text-figs. 34a, b, c; pl. 13 figs. 1, 2; *P. (P.) i. involutum* p. 118, pl. 4 figs. 4, 5; text-figs. 34a, b; Bückeberg; *P. (P.) i. antecedens* p. 120 pl. 13 figs. 1, 2; text-fig. 34c; Suddendorf near Schüttorf; subsp. nov.; *P. (P.) altum* sp. nov. p. 121 pl. 5 fig. 1; text-figs. 35a, b; Bückeberg; *P. (P.) rotundum* p. 122 nom. nov. pro *Platylenticeras* sp. nov. ? v. Koenen text-fig. 36; *P. (P.) gevrilkanum exile* subsp. nov. p. 131 pl. 5 fig. 4; text-figs. 41a, b; Auberson near St. Croix; *P. (Tolypoceras) coronatum concinnum* subsp. nov. p. 143 pl. 7 figs. 1, 2; text-figs. 48, 49; Sachsenhagen; *P. (T.) denticulatum suddendorfsense* subsp. nov. p. 169 pl. 12 fig. 1; text-fig. 65; Suddendorf near Schüttorf; *P. (T.) triangulare* sp. nov. p. 173 pl. 10 fig. 3; pl. 11 fig. 1; text-

figs. 67, 68; Bouchérans near Pontarlier; *P. (Pseudogarnieria) alatyrense* nom. nov. p. 180 text-fig. 71; for *Oxyntoceras marcousi* Stohirovsky 1894 non D'Orbigny 1894, Pechorka Cretaceous, Germany, Kemper, E.

Polyplicites mutabiliformis p. 141 text-fig. G1410, Sissach; *P. stephanoceratiformis* p. 142 text-fig. G1414, Liestal, sp. nov. Switzerland, Bajocian Jurassic, Mauberge, P. L. (2).

Pomerania ilovaiskyi sp. nov. p. 152 pl. 3 figs. 1, 1a, pl. 4 figs. 2-2b; Sosvi river basin, Russia, Jurassic, Sazonov, N. T. (2).

Prodeshayesites gen. nov. p. 592 of Deshayesitidae, genotype. *Ammonites fasciostatus* Phillips 1829, Speeton Clay, Yorkshire; *P. obsoletus* sp. nov. p. 592 pl. 82 figs. 2, 3; text-fig. 13, Atherfield Clay, Woodhatch, Reigate, Surrey, Casey, R. (4).

Proplacentoceras ? n. sp. [n.n.] pp. 179, 186; pl. 38 figs. 28, 29; text-fig. 2f; Tuluga River, N. Bank, Seabee formation, Alaska (Cretaceous), Cobban & Grye.

Proplanulites (Hubertoceras) cheyensis fig. structure and reproduction, Davitashvili & Khimshashvili.

Pseudopulchellia gen. nov. p. 65 of Cleoniceratidae genotype *P. pattoni* sp. nov. p. 65 pl. 18 figs. 1-5, 9; Outbank, E. side Nanahuk river, Tuktut formation, Albian Cretaceous, Alaska, Imlay, R. W. (2).

Pseudosynellinae subfam. nov. p. 160 Desmocerataceae for *Pseudosynella* Spath 1923 and *Atioceras* Whitehouse, Casey, R. (2).

Puzosia biroii p. 29 pl. 2 figs. 2, 2a, 2b; pl. 3; SE of Aontzy (Betioky); *P. decaryi* p. 31 pl. 4 figs. 1, 1a, 1b; 2, 2a, 3, 3a; Col de Vohimaranitra (Betioky); *P. manasoensis* p. 34 pl. 5 figs. 2, 2a, 2b; Manasoa, (Tongobory); *P. eborensis* p. 34 text-fig. 1; Ebora (Betioky); Neocretaceous Madagascar spp. nov., Collignon, M. (3); *P. cf. subplanulata* Cretaceous, Breggia (Südtessin), Ziegler, B. (1).

Quenstedticeras henrici balcaricus var. nov. p. 174, pl. 9, fig. 4; River Cherek; *Q. daghestanicum* sp. nov. p. 175 pl. 7 fig. 3; Daghestan, Callovian Jurassic, Caucasus and Georgia, Russia, Khimshashvili, N. G.; *Q. irinae* p. 118 pl. 10 figs. 1-3a; Oke river; *Q. principale* p. 119 pl. 11 fig. 3; Saratov province; *Q. cupressum* p. 122, pl. 12 fig. 3; Oke river sp. nov. Jurassic, central regions of the Russian platform, Sazonov, N. T. (1); *Q. marinae* zone in the upper Kellaway of the Saratov Volga, Troitskaya, E. A.

Rasenia (Eurasionia) subgen. nov. q.v. sub. genotype *Ammonites rolandi* Oppel 1863; *R. (E.) engeli* p. 101 pl. 21 figs. 1, 1a; Stufen, R. (*Involuticeras*) *crassostata* p. 104 pl. 20 figs. 4, 5; Heidenheim, sp. nov. R. (*Semirasenia*) subgen. nov. q.v. R. (*Rasenioides*) *pseudolepidula* p. 113 pl. 4 fig. 8; Randen, sp. nov. Germany, Jurassic, Geyer, O. F. (1); *R. sibiricae* sp. nov. p. 141 pl. 2 figs. 1, a, b, c; Siberian Urals, Russia, Jurassic, Sazonov, N. T. (2).

Ringsteadia (Decipia) helvetica sp. nov. p. 129 pl. 21 fig. 5; Mellikon Jurassic, Germany, Geyer, O. F. (1).

Roloboceras hambrovi subnodosum var. nov. p. 182 pl. 29 figs. 6a-b; pl. 30 figs. 7a-b; text-fig. 55a (left hand figure only); *R. annulatum* p. 184 pl. 31 figs. 4a-c, 6a-b; *R. regale* p. 186 pl. 30 figs. 9a-c; pl. 31 figs. 1a-c, 2a-b; pl. 32 fig. 6; pl. 33 figs. 1a-b; *R. casbyi* p. 188 pl. 30 figs. 1a-b, 2a-b; text-figs. 57c-d; sp. nov. Atherfield Clay Series, Lower Lobster bed Cretaceous, Atherfield, Isle of Wight, Casey, R. (2).

Roloboceratinae subfam. nov. p. 176 of Douvillei-
ceratidae Parona and Bonarelli 1897, for *Roloboceras*
Casey 1954 and *Megatyloceras* Humphrey 1949 and also
Parasptitoceras Kilian (this latter not found in Britain),
Casey, R. (2).

Scarburgiceras scarburgense fig. structure and repro-
duction, Davitashvili & Khimshiashvili.

Schloenbachia sp. Vraconian Saint-Laurent de l'Esca-
rene (Alpes-Maritimes), France, Thomel, G. (1); *S.*
varians from the Cretaceous of Normandy, Didon, J.

Semirasenia subgen. nov. p. 87 of *Rasenia*, subgenotype
Ammonites moeschi Jurassic, Germany, Geyer, O. F. (1).

Simoceras (*Simoceras*) *diruncinatum* (Quenstedt 1845)
forma *aegra* calcar Zieten 1830 note, Tithonian, Sette
Comuni, N. Italy, Hollman, R.

Skirrocera rochei sp. nov. p. 124 text-fig. G2934,
Liestal, Switzerland, Bajocian, Jurassic, Mauberge, P. L. (2).

Sonneratia aff. *dutempleana* Mid Albian, Verin Agdan,
Armenia SSR, Atabekyan, A. A.

Sonninia pseudofurcata sp. nov. p. 64 text-fig.
G1153; Bajocian Jurassic, Liestal, railroad excavation,
Bâle-Campagne, Switzerland, Mauberge, P. L. (2).

Stemmatoceras costulatum sp. nov. p. 126 text-fig.
G1261; Liestal, Switzerland, Bajocian Jurassic, Mau-
berge, P. L. (2).

Stephanoceras basilense p. 107 text-fig. G1409, Sissach;
S. pseudohumphriesi p. 111 text-fig. G119, Gelterkinden;
S. lietalense p. 113 text-fig. G1411, Liestal; *S. mutabili-*
formis p. 116 text-fig. G1400, Gelterkinden; *S. sub-*
mutabile p. 118 text-fig. G2964, Liestal sp. nov. Bajocian
Jurassic, Switzerland, Mauberge, P. L. (2); *S. extinctum*
aboral structures, fig., Davitashvili & Khimshiashvili.

Subarchtholites bickeli p. 60 pl. 16 figs. 19-25; Etivluk
river, Torok formation; *S. colvillensis* p. 61 pl. 16 figs.
26-29, Colville river and Ipnayik river, Albian sp. nov.
Cretaceous, Northern Alaska, Imlay, R. W. (2).

Submortoniceras sp. aff. *S. tenuicostulatum* Campanian
Cretaceous, Gulf Coast of United States, Young, K. (1).

Teloceras blagdeni Pleistocene, S. Limburg, figs.,
Willems, J.

Teshioites ryugasakiensis amino acid analysed from
shell, Cretaceous, Fujiwara, T.

Texanites suttoni crassa var. nov. p. 44, Santonian,
Vonnio, Bas-Congo, Sornay, J.; *T. stangeri densicostus*, *T.*
texanus texanus and *T. texanus gallicus* Cretaceous
succession, Gulf coast, United States, Young, K. (1).

Tobolia gen. nov. p. 154, of Aulacostephanidae, geno-
type *T. asocensis* p. 154 sp. nov. pl. 1 fig. 1; pl. 3 fig. 2;
pl. 4 fig. 1; pl. 6 figs. 3, 4, 6; *T. pseudotrifurcata* sp. nov.
p. 156 pl. 5 fig. 4; Urala, Russia, Jurassic, Sazonov, N. T. (2).

Trimarginites arolicus; *T. trimarginites*; *T. stenorhyn-*
chus; described and figured, Christ, H. A. (2).

Virgatites virgatus fig., Bononian, Poland, Kutek, J. (2).

Witchellia (*Gelasinites*) *helvetica* sp. nov. p. 67 text-
fig. G1122; Bajocian Jurassic, Liestal region, Bâle-
Campagne, Switzerland, Mauberge, P. L. (2).

Zonovia gen. nov. p. 148 of Aulacostephanidae geno-
type *Z. wralensis* p. 149 pl. 5 figs. 1, a, b, c; Urala, Russia,
Jurassic, Sazonov, N. T. (2).

BELEMNOIDEA

Belemnoida palaeotemperature analyses and Jurassic
palaeoclimatology, Bowen, R. (2).

Actinocamax manitobensis kansanus var. nov. p. 510
pl. 72 figs. 1A-1E text-figs. 1a-1b; Dutch Hallow, Rush
Co., Kansas; *A. m. spicularis* var. nov. p. 514 text-fig.
2; Fort Hays limestone; *A. sternbergi* sp. nov. p. 515
pl. 72 figs. 5A-5F; Logan Co., A. walkeri sp. nov. p. 521
pl. 72 figs. 3A-3D, 4A-4C, text-fig. 3; Logan Co., Kansas,
Cretaceous, Jeletzky, J. A.

Atractites beticus sp. nov. p. 88 text-fig. 2; pl. 3 [nom.
nud. 1946] Lias, Sierra Elvira, Atarfe, Granada, Meléndez,
B. (1); *A. san-migueli* sp. nov. p. 47 pl. 5 text-fig.
1; Lias Acatilado de Coll de Porta, Camarasa Lérida
Prov., Spain, Meléndez, B. (2).

Aulacoceratidae revision, Spain, Trias, Meléndez, B.
(1).

Belemnella casimirovicensis Ma deposits, Cretaceous,
Holland, Biezard, R. G. (2); *B. casimirovicensis* as indica-
tion of Upper Maastrichtian (Senonian) beds at Meudon,
Brotzen & Birkeland.

Belemnella mucronata associated with Globotruncari-
dae Campanian, Semsales, Switzerland, Corninboent,
P.; *B. praecursor mucronatiformis*, Campanian, Viñuela
Poland, taxonomy and structure, figs., Jamioikowski,
M.

Belemnopsis Aucklandica Lower Tithonian, Jurassic,
Kawhia, New Zealand, Fleming, C. A.; *B. canaliculata*,
B. fusiformis, *B. latesulcata*, *B. subastatus*, *B. p.*
parallelus, *B. p. germanicus*, *B. semiarcuatus* sp. nov.
p. 161 pl. 15 text-figs. 18, 19; Upper Callovian Jurassic,
Klobuck and Bleszno (Czestochowa district), Poland,
Pugaczewska, H.

Belemnositidae fam. nov. p. 63 Paleocene—Lower
Oligocene, Avnimelech, M. (1).

Belemnositinae subfam. nov. p. 63 of Belemnositidae
fam. nov. for *Belemnopsis*, *Belopterina*, *Belopteridium*,
Belopterella, *Spirulirostridium* and *Belosepiella* Paleocene
to Oligocene, classification, Avnimelech, M. (1).

Belocurta gen. nov. Belemnoida p. 61 genotype *B.*
yahavensis sp. nov. p. 62 figs. 5-8; *B. y. forma oblonga*
p. 62 figs. 1-4; Ein Yahav, Araba valley, Israel, Paleo-
cene, Avnimelech, M. (1).

Belopterinae subfam. nov. p. 64 of Belemnositidae
fam. nov. for *Beloptera* and *Belocurta* Paleocene to Oli-
gocene, classification, Avnimelech, M. (1).

Brachybelus beveriformis Bathonian Jurassic, Trze-
bionka (Chrzanów district), Poland, Pugaczewska, H.

Choanoteuthis antimonicensis sp. nov. p. 9 pl. 1 figs.
A2, C; fig. 7; Sonora, Mexico; Upper Trias, Miller, H. W.

Cylindroteuthis karabyensis sp. n. aff. "*Acroteuthis*"
kernensis, Cretaceous Siberia, *C. pachensis* sp. n. aff.
tehamaensis, Saks, V. N.

Dactyloteuthis irregularis Lower Callovian Jurassic,
Ogrodzieniec (Zawiercie district), Poland, Pugaczewska,
H.

Dicoelites meyrati and *D. waageni* Lower Callovian
Jurassic, Balin (Chrzanów district), Poland, Pugaczew-
ska, H.

Duvalia binervia, *D. lata* and *D. crinica* lower Cre-
taceous, SE Caucasus, Russia, Alisade, A. A. (1); *D.*
disputabilis Bathonian Jurassic, Ogrodzieniec (Zawiercie
district), Poland, Pugaczewska, H.

Gastrobolus ventroplanus Bathonian and Lower Callovian Jurassic, Bleszno, Wrzosa (Czestochowa district), Poland, **Pugaczewska, H.**

Hastites privatensis, Callovian Jurassic, Balin (Chrzanów district), Poland, **Pugaczewska, H.**

Hibolites hastatus, *H. semihastatus*, *H. beyrichi*, *H. württembergicus* and *H. girardoti*, Upper Callovian Jurassic; Szklary and Radwanowice, Poland, **Pugaczewska, H.**

Megateuthis giganteus Bathonian Jurassic, Leczyca (Kutno district), Poland, **Pugaczewska, H.**

Mesohibolites spp. lower Cretaceous, SE Caucasus, Russia, **Alizade, A. A. (1)**; *M. brevis* abnormal rostra, pl. 2 figs. 5a-c, **Khalilov & Alizade**; *M. gagarini* sp. nov. p. 39 pl. 1 figs. 1a, b, c; Chikilchay river basin, SE Caucasus, Russia, Aptian, Cretaceous, **Alizade, A. A. (4)**.

Neobolemitidae family includes *Bayanoteuthis*, *Styroloteuthis* and *Vassuria*, Eocene, classification, **Avnimelech, M. (1)**.

Neohibolites spp. lower Cretaceous, SE Caucasus, Russia, **Alizade, A. A. (1)**; *Neohibolites* spp. abnormal rostra, figs., **Khalilov & Alizade**; *N. attenuatus djimienensis* var. nov. p. 41 pl. 4 figs. 4a, b; 5a, b; Albian, R. Djimichai; *N. guilistanensis* **Khalilov and Alizade** sp. nov. p. 43 pl. 2 figs. 6a, b, 7a, b; Albian, Gyulistan; *N. extensus* sp. nov. p. 44 pl. 4 figs. 1a, b; Albian, SE Caucasus, Cretaceous, Azerbaidjan, **Alizade, A. A. (3)**; *N. azerbaijanensis* p. 41 pl. 1 figs. 2a, b; 3a, b; 4a-c; *N. compressus* p. 42 pl. 1, figs. 5a-c; Tazakend; *N. bogdanovitschi* p. 43 pl. 2 figs. 1a, b; 2a, b; R. Tudar; *N. mischuniana* p. 44, pl. 2, figs. 6a, b; 7; *N. tenuis* p. 46 pl. 3 figs. 6a, b, 7a, b; R. Tudar; *N. stollei* p. 46 pl. 2 figs. 3a, b; 4a, b; 5a, b; R. Chikil spp. nov. *N. inflexus angelanica* p. 48 pl. 3 figs. 1a, b; 2a, b; Angelan; *N. clava tudarica* p. 50 pl. 3 figs. 3a, b; 4a, b; 5. Tudar river basin; vars. nov. Aptian Cretaceous; Minor Caucasus, Azerbaidjan, Russia, **Alizade, A. A. (4)**; *N. minimis* Lister, vars. *media*, *pinguis*, *oblonga*, *obtus*, and *attenuata* general note, **Anderson, W. F.**

Parahibolites fragilis sp. nov. p. 497 pl. 1 figs. 2a, b; R. Tudarchan, SW Caucasus Azerbaidjan, Cretaceous, **Alizade, A. A. (2)**; *P. pseudoduvallia* lower Cretaceous, SE Caucasus, Russia, **Alizade, A. A. (1)**.

Pseudobolus coquandus Callovian Jurassic; Regulice, Racławice (Krzeszowice district), Poland, **Pugaczewska, H.**; *P. giziltchaensis* p. 495 pl. 1 figs. 1a-c; sp. nov. SW Caucasus, Azerbaidjan, Cretaceous, **Alizade, A. A. (2)**; *P. bipartitus* lower Cretaceous, SE Caucasus, Russia, **Alizade, A. A. (1)**.

Rhabdobelus parvus and *R. exilis* Bathonian Jurassic, Trzebnicka (Chrzanów district), Poland, **Pugaczewska, H.**

Rhopaloteuthis majeri, *R. bzoviensis*, *R. argovianus*, *R. sauananusus*, *R. episus* and *R. gillieroni* Bathonian Jurassic; Trzebnicka (Chrzanów district), Poland, **Pugaczewska, H.**

SEPIOIDEA

Spirula sp. general palaeontological investigations, **Shimansky, V. N. (4)**.

Spirulirostridae includes *Spirulirostra*, *Belemnosella*, *Spirulirostrina*, *Belosepia* and *Stenosepia*, Eocene, Miocene and lower Oligocene, classification, **Avnimelech, M. (1)**.

TEUTHOIDEA

Mesoteuthis rhenana from the Lias, Alma river, Crimea, **Krimholz & Shalimov.**

INCERTAE SEDIS

†*Conularia devonica* p. 153 text-fig. 1; Devonian, *C. pethorica* p. 154 text-fig. 2; Permian, Urals, U.S.S.R. spp. nov., **Conulariidae, Kalashnikov, N. V.**

†*Elliptioidea* gen. nov. p. 864 [Lamellibranchia, family not given], type species *E. vulgaris* sp. nov. p. 864 pl. 97 fig. 10; Harvey Co., Kansas, Permian, **Tasch, P.**

†*Patelloidea* gen. nov. p. 862 [Gastropoda, family not given], type species *P. limnensis* sp. nov. p. 862 pl. 97 figs. 4a-b; Jester Creek, Harvey Co., Kansas, Permian, **Tasch, P.**

†*Permoplanorboidea* gen. nov. p. 862 [Gastropoda, family not given], type species *P. primus* sp. nov. p. 862 pl. 97 fig. 1, Jester Creek, Harvey Co., Kansas, Permian, **Tasch, P.**

†*Productae* gen. nov. p. 864 [Lamellibranchia, family not given], type species *P. dunbaris* sp. nov. p. 864 pl. 97 fig. 9; Harvey Co., Kansas, Permian, **Tasch, P.**

†*Rostrotortus* gen. nov. p. 863 [family not given, Lamellibranchia] type species *R. dissimilis* sp. nov. p. 863 pl. 97 fig. 7; Harvey Co., Kansas, Permian, **Tasch, P.**

†*Rugoplanorboidella* gen. nov. p. 862 [Gastropoda, family not given], type species *R. sedgwickii* sp. nov. p. 862 pl. 97 fig. 3; Annelly, Sedgwick, Harvey Co., Kansas, Permian, **Tasch, P.**

†*Stagnestesta* gen. nov. p. 863 [Lamellibranchia, family not given], type species *S. solitaria* sp. nov. p. 863, pl. 97 fig. 5; Jester Creek, Harvey Co., Kansas, Permian, **Tasch, P.**

†*Wellingtonia* gen. nov. p. 864 [Gastropoda, family not given], type species *W. producta* sp. nov. p. 864 pl. 97 fig. 11, Harvey Co., Kansas, Permian, **Tasch, P.**

†Class Coniconchia

†Coniconchia (independent class of Mollusca) comprising 2 super-orders Hyolithoidea and Tentaculitoidea, genera *Hyolithes*, *Tentaculites*, *Styliolites* and *Novakia*, **Sysoev, V. A. (1)**; Classification, general notes, affinities and possible restriction, **Yochelson, E. L. (2)**.

Hyolithoidea.—†*Ceratotheca cambriensis* sp. nov. p. 124 text-fig. 1; Lower Cambrian, Kotuy and Kotuykan rivers, Krasnoyarsk, Central Siberia, U.S.S.R., **Sysoev, V. A. (2)**.

†*Hyolithes carinatus* operculum and mode of life in the Cambrian, **Yochelson, E. L. (1)**.

†Hyolithoidea see Coniconchia, systematics and shell structure, **Sysoev, V. A. (1)**.

†*Kygmæoceras* gen. nov. p. 31 Hyolithidae genotype *K. perplezum* sp. nov. p. 32 pl. 1 figs. 1-4, 6-8; San Saba limestone, Llano uplift, Gillespie Co., Texas, **Flower, R. H. (1)**.

Tentaculitoidea.—†*Guerichina* gen. nov. p. 385 of Novakia genotype *G. stragulata* sp. nov. p. 385 pl. 1 figs. 1-5; Devonian, Reporyje, Klukovice Bohemia, Czechoslovakia, **Bouček & Prantl.**

†*Heterotenus mosolovicus* sp. nov. p. 218 pl. 1 figs. 1, 2; mid Devonian Mosolov, central provinces of the Russian platform, **Lyashenko, G. P. (2)**.

†*Metastyliolina* gen. nov. p. 386 of Novakia genotype *Metastyliolina striatissima* sp. nov. p. 387 pl. 1 figs. 6-7; Middle Devonian Eifelian; Hlubocopy near Prague Bohemia, Czechoslovakia, **Bouček & Prantl.**

†*Striatostyliolina* gen. nov. p. 386, of Novakiida
genotype *Styliola striatula* Novák 1882, Middle Devonian
Eifelian, Central Bohemia, Czechoslovakia, Bouček &
Prantl.

†*Styliolina kireevae* p. 223 pl. 3 figs. 1-4; *S. pilip-h*
povae p. 224 pl. 3 figs. 5-7; Morslov, central Russian
platform spp. nov. Devonian, Lyashenko, G. P. (2).

†*Tentaculites maslovi* p. 220 pl. 3 figs. 8-12; *T. baitu-*
ganicus p. 221 pl. 2 figs. 7-8; Baitughan; *T. Uaschenkoi*
p. 222 pl. 2 figs. 1-6; Yulovo-Ishim spp. nov. Devonian,
Russian platform, central provinces, Lyashenko, G. P.
(2); *T. sougyi* p. 36 text-fig. 2, pl. figs. 3-5; Bir Aldiate,
Zemmour; Couvinian; *T. zemmourensis* p. 40, pl. figs.
1, 2; Falaise de l'Amgala, Tighirt; Givetian; spp. nov.
Devonian, Mauritania, Lardeux, H.

†Tentaculitoidea nomenclature study, Prantl &
Bouček; Tentaculitoidea see Coniconchia systematics
and shell structure, Syssoev, V. A. (1).

ERRATA ET ADDENDA

Vol. 94, 1957, p. 136, column 2; "*Belonella* nom. nov.
for *Toxeuma* Chun, etc., F. W. Lane" should be placed in
Recent Cephalopoda, p. 134, column 2.

Vol. 96, 1959, p. 37, column 2; "Whitley, S. P."
should read "Whitley, G. P."

Vol. 96, 1959, p. 67, column 1; "†*Fibuloptyzis elegans*
etc., Fische, J. C." should read "Fischer, J. C."

Vol. 96, 1959, p. 72, column 1; "*Ancistrogyrinx* (*Cozo-*
nasyrinx) should read *A. (Coronasyrinx)*" and "*A. (C.)*
kuroharae" should read "*A. (C.) kuroharae*."

Vol. 96, 1959, p. 78, column 2; To the entry "*Albea*
.... Llabador, F. (1)." add:—"*A. pardoi major*, *A. p.*
minor, *A. p. depressa*, Nobis, mss. (in coll.), vars. nov.
p. 51."

Vol. 96, 1959, p. 80, column 1; "*Xerophila amydra*"
entry, after Llabador, F., add (2).

Vol. 97, 1960, p. 12, column 2; Glench, W. J. & Turner,
R. D. (1). The genus *Calliostoma* in the Western Atlantic.
Reference should read "Johnsonia 4 No. 40: 1-80 pls.
1-56."

Vol. 97, 1960, p. 87, column 2; †*Mathilda lochoensis*
etc. "*T. (E.) unionensis*" should read "*M. (E.)*
unionensis."

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